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Original Articles

MALUNION OF BONES.

CARL BECK, M.D.

Professor of Surgery in the New York Postgraduate Medical School and Hospital, Visiting Surgeon to the St. Mark's Hospital, and the German Poliklinik.

NEW YORK.

The widespread indifference still shown in the practical use of the Roentgen ray is a fact greatly to be deplored, and proof of this statement is furnished by my own experience. I had an opportunity to observe 217 cases of malunion of bones since the early Roentgen era, and, strange to say, most of the cases were not treated by the poor village doctor, but by surgeons of good repute, some of them leading men. That these men would have well known how to treat these fractures in a blameless manner had they recognized their nature, can not be doubted; but they failed to make use of the Roentgen ray before it was too late. Most of these gentlemen are addicted to the principles of Epimetheus instead of following the wise brother Prometheus. They imagine that by virtue of their especially well-developed palpatory talent they could feel configurations which in reality did not exist, and those that existed they did not feel.

I can not go into the psychologic reasons of this lack of respect for one of the greatest medical discoveries of all times, although it would be a tempting task, but I shall confine myself to demonstrating (1) how malunion should and could have been prevented in some of my cases, and (2) how it is best corrected.

I trust that I will not be misunderstood if I undertake to criticise the present state of affairs, but I feel that it is my duty to warn.

I may, therefore, suggest the following axioms:

1. No bone injury should be treated unless at least one reliable Roentgen ray picture is taken.

2. The Roentgen method, in combination with the usual methods of examination, determines the character of a suspected bone injury.

3. If there be no bone injury the usual treatment consists in massage, followed by temporary immobilization; a movable splint (plaster-of-Paris) being recommended for the latter purpose.

4. If there is a fissure or fracture, followed by no displacement, manipulation of the injured area must be avoided, and immobilization in the most comfortable position applied. A plaster-of-Paris dressing answers the purpose best as it adapts itself to the contours of the body in any shape desired, and it offers no obstacle to the control of the Roentgen rays.

After two or three weeks the dressing is removed and massage begun. This is best done by allowing the use of a temporary plaster-of-Paris splint, which the patient himself can take off and reapply after massage is administered.

5. If a displacement is present, the fracture must be looked on as a most important injury. Reduction must then be tried at once. This may be done under the control of the screen, on a translucent table, a plaster-of-Paris dressing being applied after reposition is perfect. This is a simple, short and cheap method, but the impressions on the fluoroscope are by no means so reliable as those made on a plate, and the latter can be studied at leisure. If the facilities allow, a plate should therefore be made before efforts at reduction under the guidance of the fluoroscope are tried.

Another method consists in taking two skiagraphs, in different positions, generally in the lateral as well as in the dorsal position. Under the guidance of these plates the reposition is tried, while the two fragments are firmly held between thumb and fingers of the surgeon, whose instinct will generally lead him correctly since the plate shows him toward which direction he must push the displaced fragment, and how far. When he believes he has succeeded, a plaster-of-Paris dressing, padded with cotton at its extremities only, is applied and a Roentgen picture taken through it in order to ascertain whether or not reposition is perfect. If it does not seem to be, the dressing must be removed and another attempt at reposition made. If the process of reduction, as frequently happens in displaced fractures, meets with difficulties, anesthesia should be employed. The surgeon will nearly always be able to judge by the plate, whether such difficulties would be anticipated, in which case he will anesthetize the patient before resorting to any unpromising efforts at reduction.

6. No surgeon can assert positively, before having tried, whether he will be able to reduce a fractured fragment or not. He should, therefore, be careful in his promises to the patient. While, in the great majority of cases, it is possible to reduce the worst fractures at an early stage, there are conditions in which, on account of entangling of the fragments or extensive splinter formation, or similar complications, reposition, even under anesthesia, can not be accomplished. Then the fragments must be exposed by the scalpel and trimmed until they can eventually be brought into apposition. Sometimes there is then so little tendency to further displacement that simply applying a plaster-of-Paris dressing ensures perfect immobilization. In those cases in which one fragment presents a cavity, as it happens in old fractures of the neck of the humerus, the other fragment may be inserted into that natural excavation in the medullary canal. This is much easier when one fragment is thinner than the other. If not, the fragment may be adjusted properly by removing some of the cortex with a chisel. Good results are also gained by applying catgut sutures through the periosteum, provided there is enough of it.

The safest of all sutures is the aluminum bronze wire suture. Silver wire invariably breaks when it is twisted

forcibly; and the wire must be twisted because the bone fragments must be held together so tightly that they will not slip by each other. By virtue of its extreme flexibility and softness, the bronze wire stands any amount of force required. The reason so many cases in which the adjusting steps were made by a master, proved to be failures in the end, can only be found in the timid manipulations of the surgeon while suturing, because he was afraid to go further in twisting the silver wire, knowing that it would break. Thus the fragments became loose gradually, and became united in a displaced position, causing such severe disturbance by irritation and friction through displacement, that, in spite of the most thorough aseptic precautions, suppuration occurred.

The technical principles of suturing bone fragments should be the same as those in general plastic surgery, viz., thorough asepsis, accessible exposure, avoidance of force, and of tension of the tissues, exact hemostasis and accurate apposition of the wound margins.

In suturing the intestine we first of all try to place the suture extra-abdominally. No one would attempt to apply an intestinal suture in the depth of the abdomen.

Fig. 1.—Case 1. Photograph taken immediately after the injury, showing deformity.

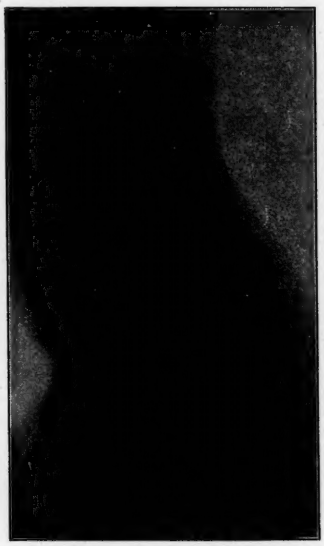

Fig. 2.—Case 1. Skiagraph showing excessive displacement of lower end of radius immediately after the injury.

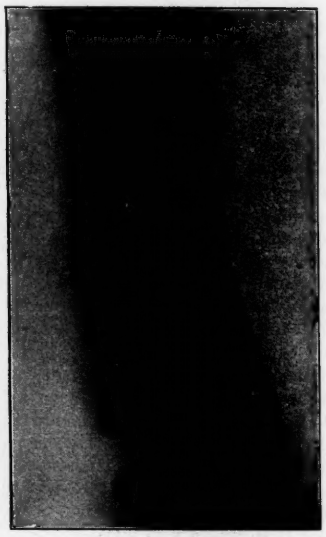

Fig. 3.—Case 2. Skiagraph showing immense displacement of lower end of radius.

The same principle must be adhered to in bone surgery. The periosteum must be just as carefully treated as the peritoneum. It is incised longitudinally and gently pushed aside by a thin broad elevator. Old adhesions are thoroughly freed with the knife; blunt force must always be avoided. The badly united ends are then separated with mallet and chisel. Then the fragments are bent. The posterior surface is more and more denuded of periosteum, until the whole limb can be folded, as it were. Loose bone splinters are removed; the bone ends are trimmed and a hole is bored in the center of each fragment, about an inch above the end. Then, after approximation can be accomplished without force, the wire is pulled through the holes without being knotted. The fragments are then pressed down into place and the wire is twisted with a strong handled steel twister. The wire must be very tightly attached to the bone. If the wire is applied properly the fragments can not be moved, except by great force. The periosteum is minutely united with catgut around the twisted wire. The same is done with the fascia and the skin. The twisted wire itself is surrounded with two silk-sutures at the skin, which answer the purpose of fortification and of relaxation. After from four to six weeks, depending on the size of the bones, the wire is taken out.

The wound is covered with bismuth subgallate gauze, over which a piece of absorbent moss board is placed. The limb is then immobilized by a large plaster-of-Paris dressing. A fenestra may be left in the dressing to control the wound. If union by first intention takes place, as it should, there is no reaction.

It is unwise to cut off the wire just above the bone and leave it *in situ*. In the course of time it often causes irritation, which makes its extraction a very difficult and tedious task. As a rule, degenerative processes of the bone tissues form around it.

The holes are bored with a drill, which I modified from a carpenter's drill. Its advantages are that it does its work without requiring any pressure. For holding the fragments I employ a modified wrench instead of a bone-holding forceps.[1] In simple linear osteotomy, required especially in badly united fractures of the lower end of the radius, my abdominal spoon serves as a protector against the underlying tissues, while the chisel is used for separation.[2] In regard to other details, I may refer to my previous publications on the subject.[3]

To illustrate my views I will report a few cases from my practice:

CASE 1.—Boy, aged 16, while taking exercise at college, fell on his outstretched hand. Five minutes later he presented himself at the Postgraduate Hospital and a skiagraph (Fig. 2) was made almost immediately showing excessive displacement of the lower end of the radius. An effort at reduction made under ether proved to be unsuccessful. The patient was advised to have the lower fragment reduced by inserting a chisel between the two fragments so as to shift them into the normal position. This was done and after four weeks recovery was perfect.

1. Med. Rec., Jan. 4, 1908.
2. Med. Rec., Nov. 5, 1905.
3. N. Y. Med. Jour., Dec. 27, 1902.

CASES 2 and 3.—These showed the same conditions, except the nature of the fracture was not recognized. Figure 3 shows an immense upward displacement of the lower fragment, five months after the injury. At this late period reposition after separation with the chisel naturally promised very much less chance for complete restoration than if it had been done immediately, because the soft tissues had been exposed to undue pressure for that length of time and had partially atrophied. The skiagraph of Case 3, representing a fracture of the radius associated with fracture of the lower end of the ulna, shows excessive upward and lateral displacement. Although nineteen days had elapsed since the injury, reposition by chisel without separating the fragments proved to be successful.

CASE 4.—Boy, aged 10, sustained a fracture of the second, third, fourth and fifth metacarpal bones, and was treated in a hospital of a large city. The displacement of the second and third metacarpals was enormous.

Treatment.—The hand was considerably enlarged and nearly useless. Reduction was accomplished by means of the chisel. Although the soft tissues had to be interfered with considerably on account of the many adhesions, the result was good. After the second and third metacarpals were wired, the fourth and fifth could be held *in situ* by a few catgut sutures.

CASE 5.—Man, aged 22, was run over by an automobile, eight months ago. He was brought to a hospital in an ambulance. The diagnosis of fracture of tibia and fibula was made, reduction was tried under ether anesthesia and a plaster-of-Paris dressing was applied by a surgeon of national reputation. No Roentgen examination was attempted because the case appeared to be extremely simple. After six weeks the patient made an effort to get up, but could not do so on account of intense pain. On closer examination it was found that the patient's leg was over an inch short. A Roentgen-ray examination was then made, eight weeks after the accident, and another effort at reduction was made under ether anesthesia.

Roentgen Examination.—Nine weeks after the injury I examined the patient at St. Mark's Hospital. I found the left leg swollen from the malleoli up to the knee. The patient was unable to stand on his foot and was unable to walk. The Roentgen examination disclosed an overlapping of the fibular fragments in the middle of the leg. The fragments were laterally united by a long triangular bridge of callus. The upper fragment leaned against the internal tibial surface. The tibia itself showed axial diversion and protrusion of a sharp fragment. Anteroposteriorly there was overlapping of the transversally fractured fragments of the fibula, while the excessive lateral displacement of the obliquely fractured tibia was markedly represented. There was only slight callus formation which explained the abnormal mobility of the fragments (Fig. 4).

Treatment.—On the day after admission the fractured area was exposed, the fragments freed and wired with bronze in the manner described above. The skiagraph showed perfect union of the fragments, the wires still being *in situ* four weeks later. Many adhesions had to be severed in order to liberate the bone ends. The sutures were removed six weeks after the operation. The result is perfect and there is no shortening.

Remarks.—As it is still customary, attention was given to the tibia exclusively during the efforts at reduction, while the fibula was ignored. Although the tibial fragments had yielded at the time of manipulation, they always fell back into the wrong position under the influence of the malposition of the fibular fragments which remained overlapped.

A skiagraph made at the time of the accident would have directed attention to the fibula. In other words, if the transversally severed fragments of the fibula could be brought into apposition, the tibia had, *eo ipso*, to remain in its normal position. And in the event of failure, the surgeon, on the strength of his Roentgen plate, would have persuaded the patient to submit to exposure of the fragments and wiring. When the patient had left the hospital, six weeks later, he would have been well instead of having had to spend four months more in bed.

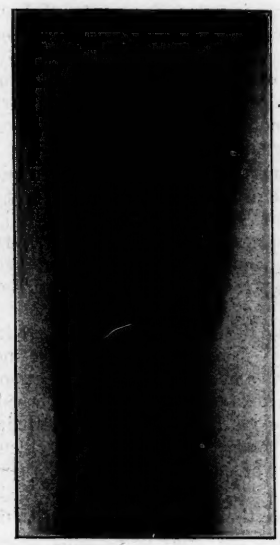

Fig. 4.—Case 5. Abnormal mobility of fragments due to slight callus formation.

Fig. 5.—Case 9. Non-united fracture of radius and ulna, with overlapping of fragments six weeks after injury.

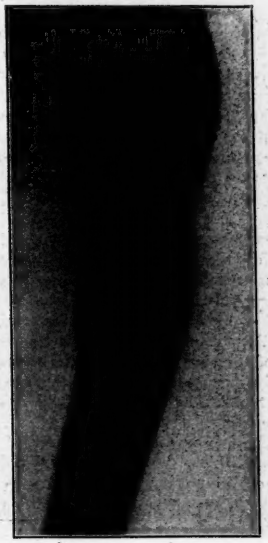

Fig. 6.—Case 12. Aluminum tube in medullary canal supposed to hold fragments together.

CASE 6.—The skiagraph in this man, aged 26, shows the same characteristics as that in Case 5, with the difference that the accident happened three years ago and that the soft tissues became so much atrophied that a chisel operation at this late stage would be a risky affair.

CASE 7.—Man, aged 40, fell in an automobile from a precipice and was treated for dislocation of the right shoulder and fracture of the left elbow.

Examination.—When I examined the patient I found him unable to use his arms and hands at all, as both were closely pressed to the front of the body. The right shoulder showed a deep impression which suggested a subglenoid dislocation. The skiagraph showed the head of the humerus as a very small fragment in the glenoid cavity, the diaphysis of the humerus being driven inwardly toward the sternal end of the clavicle at its posterior surface.

Treatment.—The diaphysis was freed with much difficulty

and reduced. The head showed a considerable excavation in its center, which was utilized as a recipient for the diaphyseal end. Thus wiring could be dispensed with. No reaction following, the left elbow was corrected five days afterward. The skiagraph represented backward dislocation of the elbow and fracture of the internal epicondyle. There were also indications of much proliferating bone tissue. Reduction of the backward dislocation could not be accomplished before liberating a number of ligamentous fragments. No wiring was necessary after reposition was accomplished. Another skiagraph showed the condition of the joints five weeks after operation. The patient can use both of his arms now, the result being nearly perfect.

Remarks.—In this case no Roentgen examination was made until three months after the accident. If it had been done the treatment would, of course, have been entirely different.

CASE 8.—The skiagraph showed malunion of fracture of humerus five weeks after the injury, which was supposed to have been a dislocation. The head is turned outward, a portion of the articular surfaces being united with the diaphyseal fragment by callus formation. Division was performed by chisel. The result is good.

CASE 9 was one of non-united fracture of radius and ulna, the fragments overlapping six weeks after injury (Fig. 5). Recovery ensued after the fragments had been severed by chisel and wired.

CASE 10.—The skiagraph showed overlapping fragments of the femur of a child of 2 years. Shortening amounted to two inches. Four weeks after the injury the fragments could still be severed by blunt force, the directions of the forcible motions being indicated by the skiagraph.

CASE 11.—A boy, aged 10, sustained a fracture of the lower end of the femur. The lower fragment, including the patella, was displaced backward and became united to the posterior surface of the femur. The shortening four months after the accident amounted to three inches. The patient is now looking forward to an operation.

CASE 12.—Boy, aged 12, sustained a fracture at the upper third of the femur, followed by displacement one-half year ago. It was corrected at the time, the fragments being brought into exact apposition. An effort was made to hold the fragments together by an aluminum tube, which was inserted into the medullary canals of the two fragments (Fig. 6), but the upper half of the tube became loose, the fragments were displaced and greatly irritated so that inflammatory processes followed. For a year a fistula was discharging seropus at the inner margin of the thigh. The nature of the deformity, as well as that of the fistula, was not disclosed until I resorted to the Roentgen method, which showed the overlapping of the bones and the displaced aluminum tube.

MALIGNANT DEGENERATION OF WARTS AND MOLES.*

EDMUND A. BABLER, M.D.

Associate Surgeon, St. Louis Skin and Cancer Hospital; Assistant in Surgery, Washington University.

ST. LOUIS.

The frequency with which warts and moles suddenly increase in size and show other evidence of malignant change does not seem to be appreciated by either the medical profession or the laity. My attention has recently been attracted to this important subject by a series of very impressive cases observed at the St. Louis Skin and Cancer Hospital.

As early as 1860, Collins called attention to the peculiar changes occasionally observed in warts and moles; they suddenly increase in size, soften and appear to ulcerate. Virchow and Billroth were, perhaps, the first to describe cases in which a wart showed sarcomatous change; they designated the pathologic condition plexiform sarcoma, and expressed the opinion that warts and moles not infrequently undergo sarcomatous degeneration. In 1892, Unna contended that many, if not most, of these warts and moles are epitheliomata rather than sarcomata, thus concurring with McCarthy, who, in 1880, reported a very interesting case which macroscopically and microscopically corresponded with the sarcomatous growths described by Billroth and Virchow. McCarthy felt confident that the cord-like masses of cells were not of connective tissue origin, but were some form of rapidly growing epithelial structure. Keen has found that growths which arise from warts proper are generally epithelial carcinomata. Several of Keen's cases of malignant disease originating in moles were undoubtedly sarcomata.

In 1903 Eve reviewed the records of the London Hospital for the past twenty years and found that twenty-six of the thirty-three cases of melanosarcoma situated in the skin probably originated in pigmented moles. Eve was convinced that the tendency to the formation of secondary growths in the liver does not appear to be so great in the melanosarcoma of the skin as in the case of primary melanosis of the eye, and that the excretion of melanin in the urine is not so frequent. Wilson and Kalteyer reported a case of melanosarçoma originating in a mole on the forehead, and collected fifty of these cases, in 69 per cent. of which the growth had its origin in a mole or nevus, thereby pointing out the importance of removing warts, moles and nevi as soon as possible lest they become malignant.

It is true that a wart or a mole may never become malignant, but the literature, as well as the cases studied by me at the St. Louis Skin and Cancer Hospital, will convince the most skeptical that an apparently harmless wart or mole may suddenly begin to grow, and oftentimes quite rapidly, destroying the life of the unfortunate individual.

In some of our cases the more or less constant irritation to which the mole or wart was subjected seemed to be the exciting factor. In one instance the patient attributed the malignant change to the bite of a woodtick. Several of our cases of malignant disease had their origin in a mole which had frequently been accidentally cut by a barber. Most of our cases originated in warts. wart.

It must be admitted that the general practitioner is not always to blame for the delay of excising these apparently harmless blemishes. I have recently observed several cases in which the patient refused to have the growth removed. In our report will be found an instance in which a patient with a mole on his left temple refused operation. He is now eking out a most pitiful existence; the left eye and practically the entire left half of his face have been destroyed by the disease.

The plates submittted with this report emphasize the fact that warts and moles should be removed as soon as possible. I fully concur with Keen, who has contended that the moment warts and moles begin to increase in size they are almost invariably already malignant growths and should be treated as such. Just here I would like to protest against the practice of cauterizing warts on the face; they should be excised.

Cases 1, 2, 6, 8, 9, 11, 12, 16, 17 and 18 occurred in the service of Dr. Lutz, Case 7 in that of Dr. N. B. Carson, and Cases 3, 4, 5, 10, 13, 14 and 15 in the service of Dr. H. G. Mudd. It is a pleasure to acknowledge my indebtedness to Drs. Lutz, Carson and Mudd for the courtesies extended. I am also greatly indebted to Dr.

* From the St. Louis Skin and Cancer Hospital.

Guthrie McConnell for the pathologic reports, and to Dr. Mook and Dr. Wells for the excellent photographs.

REPORT OF CASES.

CASE 1.—*History.*—Mr. W. E. W., aged 63, was admitted Nov. 19, 1907. Fifteen years ago he noticed a small seed-wart growing on the back of his left hand, but, since it did not cause him any discomfort or did not grow, he gave it only passing consideration for nine or ten years, when seven or eight small, brownish, warty-like growths appeared on the back of his right hand and a scaly, roughened area on the right side of his nose. At this time the wart on the left hand began to grow quite rapidly and he trimmed it frequently. Three years ago the growth on his left hand was the size of a walnut and divided into two equal portions; he was advised to have it removed, but refused. Six months ago it became painful and discharged an offensive, yellowish green fluid. Arsenic was applied and reduced the size of the growth very much, but within a very few weeks the growth had attained its former size. Arsenic was again applied with a similar result. Recently the growth on his left hand has been growing very rapidly and a hard, flat, ulcerated growth has appeared on his left cheek. His left arm is practically useless; he can not flex or extend it very freely.

Fig. 1.—Epithelomatous degeneration of a wart on the hand.

Examination.—On the dorsal surface of the left hand was a large, cauliflower-like growth covered with a yellowish, greenish, offensive discharge; the lower third of the forearm was swollen; the flexor muscles were markedly contracted, limiting very materially the movements of the forearm; epitrochlear gland not enlarged. On the dorsal surface of the right hand were eight brownish, firm nodules (Fig. 1). On the left malar eminence was a firm, flattended mass, about one inch in length and one-half inch in width, presenting the appearance of an epithelioma (Fig. 1). On the right side of the nose was a scaly-like indurated area as large as a silver dime.

Operation.—The left forearm was removed by disarticulation at the elbow. The rubber tissue drain was removed on the third day. Union was complete on the fourteenth day. The growth on the left malar eminence was also excised. Union was primary, but about three weeks later a small nodule was noted in the upper, outer margin of the line of incision. *X*-ray exposures have been given each week since the latter finding.

Microscopic Examination.—The specimen from the hand contained many distinct nests of cells of various sizes. The nests were separated by connective tissue which in places was very markedly increased. The nuclei of the cells varied greatly in size, shape and staining qualities, the large round faintly staining nuclei predominating. Many epithelial pearls were present, with a large amount of keratin formation. In places, near the periphery of the specimen, there was considerable edema. The specimen from the cheek showed numerous nests of cells, the nests being smaller in size than those of the specimen from the hand. The connective tissue was greatly increased, with considerable congestion throughout the specimen. Lymphocytic infiltration was quite marked. Pathologic diagnosis: epithelioma of hand and cheek.

CASE 2.—*History.*—Mr. J. K., aged 72, was admitted Dec. 17, 1907. Ever since he can remember he has had a mole on the left side of face near the external canthus of eye; six years ago the barber accidentally cut it, but it healed within a short time. A few months thereafter a small scab appeared on the mole and he picked it off with his finger nail; another scab appeared and was removed; after which time the mole became an ulcerating growth; all attempts to heal it were futile. He consulted many prominent surgeons, but was refused an operation. Pastes, salves, powders, *x*-ray, and other applications were not of any benefit; the disease continued unabated. During the past six months the destructive process made very rapid progress; patient lost seventy pounds and the pain became of an agonizing character. Morphin, in very large doses, is necessary to secure relief.

Fig. 2.—Malignant degeneration of mole on temple.

Examination.—The left eye and greater portion of left side of face had been destroyed.

Treatment.—Palliative.

Pathologic Diagnosis.—Rodent ulcer.

CASE 3.—*History.*—Mrs. J. E., aged 54, was admitted Jan. 22, 1906. When thirty years old she noticed a small mole growing on her left temple near the hair margin. She frequently irritated the mole while combing her hair; sometimes the comb scratched off the top so that the mole would bleed. About four years ago the mole began to grow and develop into a malignant ulcer. The destructive process extended gradually to the left ear, which latter it eventually destroyed. A portion of the scalp and left temporal muscles have been destroyed. At present she can not hear very well with left ear; pain is quite severe. At times the pain extends to the orbit and to the parietal region. There is a constant ringing noise in left ear.

Examination.—A large, granular, ulcerated area about four

inches in diameter, the center of which was the middle ear, occupied the left temporal region; the left external ear was destroyed (Fig. 2), also the entire petrous portion of the temporal bone; the dura was in view.

Operation.—Parts curetted and cauterized. Temporary benefit; involvement of brain; death.

Microscopic Examination.—A section, including a portion of the skin of the ear, as well as the ulcerating surface, was examined. The squamous epithelium of the skin showed little change till the immediate neighborhood of the ulcer was reached. The epithelium sent numerous broad projections into the deeper tissues. There was, however, no attempt toward breaking through and infiltrating. The surface epithelium beyond this point became rapidly thinner and disappeared. The portion at the ulcerated end was composed of irregular nests of cells containing long oval vesicular nuclei that stained deeply. No intercellular fibers were present. The cells composing the tumor resembled those of the germinating layer and did not take on any of the changes seen in

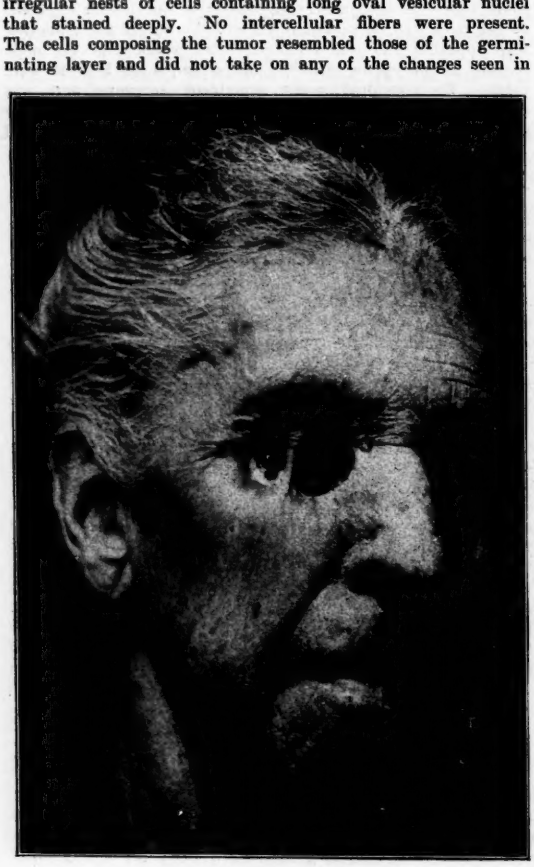

Fig. 3.—Malignant degeneration of wart on lower eyelid.

squamous epithelioma. There was also considerable connective tissue hyperplasia at the edge of the ulcer. Round-cell infiltration quite marked.

Pathologic Diagnosis.—Carcinoma (rodent ulcer).

CASE 4.—*History.*—Mrs. S. O'M., aged 74, was admitted Feb. 25, 1905. At fifty years of age she noticed a small wart on her right lower eyelid. Five years ago the wart began to grow and soon became red and ulcerated and in two years the destructive process involved the entire right half of the lower lid and attacked the eye. One year later she had the lid and eye removed, but within a short time the condition was as bad as before operation. Pain has become a very prominent and distressing symptom. Pastes, salves and powders have been applied without benefit.

Examination.—The right orbital cavity was occupied by a cauliflower-like growth from which exuded an offensive, purulent discharge. Patient was emaciated, pale and weak.

Operation.—The orbital cavity was thoroughly cleaned out. Within a very short time evidences of recurrence were noted (Fig. 3). The disease extended to the brain; patient died a short time ago.

Pathologic Diagnosis.—Epithelioma of orbit and brain.

CASE 5.—*History.*—Mr. P. G., aged 70, was admitted Aug. 25, 1905. Six years ago he noticed a small wart-like nodule on the left side of his nose. Six months ago it began to grow, extending to cheek. It became lobulated and resembled a bunch of grapes. At present it is growing at a rapid rate.

Examination.—On left side of nose and cheek was a red, lobulated growth about as large as half of a walnut, presenting the appearance of an epithelioma.

Operation.—Growth was excised. Union was primary. Patient has not been seen since May, 1906. No recurrence at that time.

Pathologic Diagnosis.—Epithelioma of nose and cheek.

CASE 6.—*History.*—Mr. J. L. T., aged 73, was admitted July 11, 1906. He had a small mole on the left side of his nose ever since he can remember. In 1889 a barber accidentally cut off the top of the mole; the wound healed, but about a year

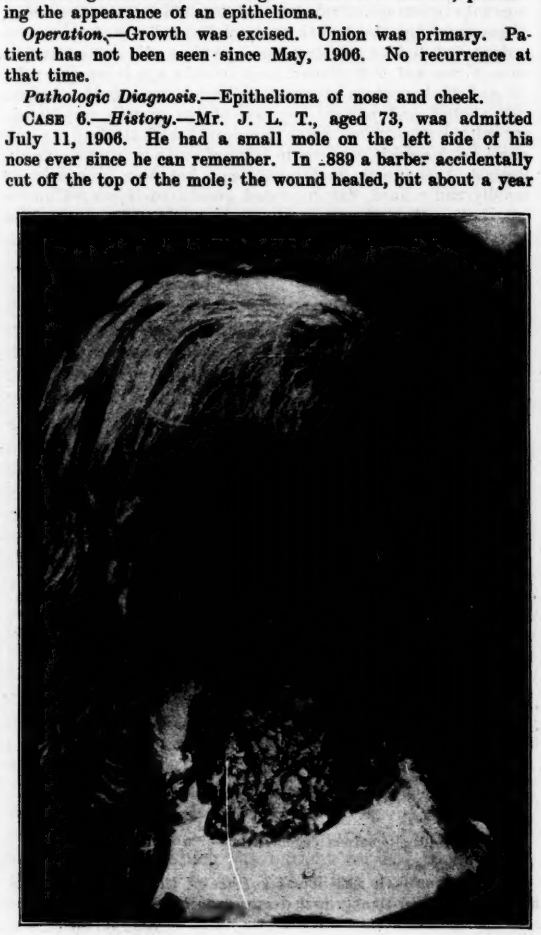

Fig. 4.—Epitheliomatous degeneration of a mole on the neck.

ago a scab appeared and he picked it off. Within a short time another scab appeared and he removed it; this process was repeated at frequent intervals until nine months ago, when the mole became a destructive ulcer which has grown rapidly during the past two months.

Examination.—On the left side of the neck near the angle of the jaw was an indurated ulcer, one and one-half inches in length and one-half of an inch in width, presenting the usual appearance of a rodent ulcer. No palpable glandular involvement. Growth was excised. Primary union.

Microscopic examination showed rodent ulcer.

CASE 7.—*History.*—Mr. J. P. C., aged 56, was admitted June 26, 1906. For many years he has had a small mole on the right side of his face, but it did not cause him any inconvenience until in 1889, at which time a barber cut it while shaving him. The wound healed within a short time, but a few months later a barber cut it again, after which it did not

heal satisfactorily. A few years ago he noticed that the mole was ulcerated and increasing in size. Pain has not been severe in character.

Examination.—On the right side of the face, over the molar eminence, was situated an irregular, depressed ulcer, worm-eaten in appearance, about as large as a silver half-dollar. It presented the appearance of a rodent ulcer. No palpable glandular enlargement.

Operation.—Growth excised. Primary union. Recovery.

Microscopic Examination.—The neoplastic cells were distributed throughout the specimen in two different arrangements. In places there were quite large, irregular nests of cells containing oval or round nuclei that stained fairly deeply. The peripheral layer of cells was arranged in a distinctly columnar fashion. There was no restricting membrane, the cells lying in direct contact with the adjacent tissue. In other places the cells had a more or less regular arrangement into narrow strands surrounding distinct acini. In many of these openings were found blood cells and granular matter. Some of the acini contained a somewhat granular mass which stained slightly with eosin. Round-cell infiltration was quite marked. Some muscle fibers showed hyaline change. Numerous mitotic figures.

CASE 8.—*History.*—Mr. McC., aged 74, was admitted Jan. 15, 1907. Ever since he can remember he has had a small mole or birthmark on the left side of his neck, just below the tip of the mastoid process of the temporal bone. Sixteen years ago a woodtick bit him on the mole. He was unable (he thinks) to remove all of the tick, and is under the impression that his present condition is the result of this. Two or three months after he was bitten he noticed that the mole was very tender to touch, and that it was increasing in size. Various preparations were applied; a small ulcer appeared on the mole, which showed a tendency to increase in size and refused to heal kindly. He finally succeeded, however, in healing the ulcer. A few years later he accidentally contused the left side of his neck against the limb of a peach tree; the parts became very sore and ulcerated. The tissues immediately surrounding the mole became indurated and of increased size. He consulted various "quacks" and spent all of his money, but the ulcer continued to get larger and larger. As time went on the growth caused more or less constant and severe pain; pain was especially severe at night. Recently the growth has been increasing more rapidly and has destroyed a large portion of the left side of the neck, posterior to the sternomastoid muscle. He has lost considerable weight.

Examination.—A large, granulated, depressed ulcer with irregular, firm margins occupied the left posterior side of the neck (Fig. 4). The muscle was exposed in the central portion of the ulcer; portions of the muscle showed characteristic malignant change. Portions of the margins of the ulcer were undermined. Cervical (left) glands palpably enlarged. The sternomastoid muscle (left) very firm and infiltrated at its upper portion. General condition of patient quite good.

Treatment.—I gave trypsin injections for a considerable time, but with only temporary benefit; the severe pain became lessened to such an extent that the patient could sleep the entire night. Within a short time, however, the pain returned, but was never as severe as previously. The trypsin treatment did not change the condition of the growth, except that it became clean. Owing to illness in patient's family, he was called home about three months after admittance to hospital. Not traced.

Microscopic Examination.—One-half of the specimen consisted of a mass of quite dense connective tissue covered by a layer of surface epithelium. The other half was made up of a more open connective tissue framework, scattered throughout which were numerous small, irregular nests of cells. These nests were not limited by any membrane and were separated from each other by greater or less amounts of adult connective tissue. There was a very general widespread round-cell infiltration.

Pathologic Diagnosis.—Squamous epithelioma.

CASE 9.—*History.*—Mr. G. T. W., aged 54, was admitted Oct. 1, 1906. About two or three years ago he noticed a small warty growth on his lower lip. In October, 1905, it began to grow rapidly, and the physician whom he consulted diagnosed it cancer. Acids, pastes and plasters were applied without benefit. The disease continued unabated. He lost weight; appetite poor; pain more or less constant and quite severe.

Examination.—A large cauliflower-like growth occupied practically the entire lower lip and a part of the chin and inferior maxilla in median line. The mouth was apparently free from involvement. The growth was very firm, except in the ulcerated portions. Patient presented a somewhat cachectic appearance.

Operation.—The lower lip in its entirety and the submental and submaxillary glands were removed, and the diseased bone was thoroughly curetted. Superficial tissues of face were approximated and a new lip was formed. Patient developed a pneumonia and died a few days after the operation.

Microscopic Examination.—The superficial epithelium was very much thickened and the papillæ were large. Lying deeper within the tissues were irregular nests of cells containing large round bubble-like nuclei. The cells in the periphery of these nests showed quite a well-marked columnar arrangement. In the center of many of the nests the cells had become considerably flattened and had undergone keratin formation with loss of the nuclei. Round-cell infiltration was very well marked beneath the epidermis and between the cell nests. Very few mitotic figures were found. The submaxillary gland showed slight inflammatory changes.

CASE 10.—*History.*—Mr. L. W., aged 58, was admitted Aug. 23, 1906. About seventeen years ago he noticed a small warty-like growth on right half of his lower lip. For years after its appearance it began to grow at a rapid rate and he had it excised. Three years later it returned and in 1901 he had it cauterized. The growth disappeared and did not return until three years later; it then appeared in the form of a small, hard ulcer, which latter soon became of a rapidly destructive character. He tried various so-called "cures," but the disease continued unabated. No loss of weight; appetite good.

Examination.—The entire right half of lower lip had been destroyed. A hard crate-like, ulcerating mass presented itself in this area; the lower teeth, normally covered by the right half of the lower lip, were exposed. The submental glands, as well as the submaxillary glands, were not palpably enlarged. Floor of mouth was apparently free from involvement.

Operation.—Radical excision. Patient recovered. Union was primary. No recurrence up to present time.

Microscopic Examination.—The greater part of the specimen was composed of irregular masses of cells containing rather small round or oval vesicular nuclei. These masses had no limiting membrane and ramified through the tissue in the form of a coarse network with more or less connective tissue in between. In a number of places the tumor cells had a distinct adenomatous arrangement. Narrow strands of about two cells in thickness formed a network enclosing spaces that appeared to be filled with a secretion. There were several areas in which the central portion of the cell masses had undergone a marked degeneration.

CASE 11.—*History.*—Mrs. M. C., aged 56, was admitted Oct. 21, 1907. Many years ago she noticed that she had a mole on the right side of her nose, but, since it did not cause her any inconvenience, she did not pay any attention to it until five or six years ago, at which time it began to increase in size. Pastes, salves and other "frauds" were applied without benefit. The growth rapidly increased in size. Pain was not severe or constant.

Examination—On the right side of the nose, at about the center, was a brownish, nodular growth, one inch in length and one-half inch in width; it felt tense and firm and was in the skin.

Operation.—Excision under local anesthesia. Primary union. Subsequent Roentgen ray treatment.

Microscopic Examination.—The superficial epithelium was considerably thickened and showed a very great keratin degeneration. There was some parakeratosis.

CASE 12.—*History.*—Mr. W. F. R., aged 53, was admitted March 6, 1907. Five years ago he noticed a small, white, wart-like growth on his lower lip near its center. He pulled it out, but within a few weeks it returned. The process was fre-

quently repeated. The substance removed was always of the same consistency, spongy-like and closely resembled a wart. Five or six months after its first appearance he consulted a so-called "cancer doctor," who attempted to treat it with his pastes, etc., but without success. The application employed seemed to accelerate the development of the growth. One year ago the growth involved the entire right half of the lip; he consulted a surgeon who excised the lower lip. Within six months the growth returned (?) and rapidly attained the size of a small closed fist. Another surgeon found the inferior maxilla also involved. Three weeks ago the growth on lip and a portion of the inferior maxilla were removed. At present there are evidences of recurrence. Loss of sixty pounds in weight during the past year.

Examination.—Mouth deformed, due to previous operation. There was constant flow of saliva from mouth, at right angle of the very narrowly contracted mouth was a small nodular growth about as large as a pigeon's egg. Glands not palpably enlarged. Floor of mouth not involved. Patient could scarcely open his mouth.

Treatment.—He had been subjected to Roentgen rays, but without benefit. Injections of trypsin were tried, but so many abscesses followed its use that they were discontinued. The lower lip was freed from the inferior maxilla and the growth was excised under chloroform anesthesia. Patient has not been heard from since he left the hospital. Probable recurrence.

CASE 13.—*History.*—Mr. J. T., aged 75, was admitted Sept. 4, 1907. About three years ago he noticed a small wart on the left side of his nose, but, since it did not seem to grow and did not cause him any pain, he let it alone; within a very short time it became an ulcer and grew rapidly. Painful at times.

Examination.—On the left side of nose was a hard movable mass about as large as half of a walnut. The edges of the mass were of firmer consistency than its central portion. The growth presented the appearances of an epithelioma.

Treatment.—Excision under local anesthesia. Primary union.

Microscopic Examination.—The specimen was composed of many small cell nests separated from each other by a slight amount of connective tissue. In many places the nests appeared to have fused, thus forming masses with scalloped edges, resembling rosettes. In the nests the peripheral cells were arranged in a quite regular columnar manner, the central cells being massed together irregularly. Many of the cells were undergoing division. Some round-cell infiltration in the connective tissue.

CASE 14.—*History.*—Mr. L. B. L., aged 78, was admitted May 12, 1906. Eight years ago he noticed a small wart-like growth on his lower right eyelid, but it did not cause him any discomfort or did not seem to increase in size until four years later, at which time a small scab appeared. He pulled this off and the wart bled freely. Within a short time the wart began to ulcerate and discharge a greenish, offensive pus, and the parts became swollen and more or less painful. The destructive process extended until the entire lower lid was destroyed; the upper lid was so swollen and edematous that he could not see out of his right eye. No loss of flesh.

Examination.—The right lower lid was practically destroyed. The tissues adjacent to the base of the lower lid were indurated and infiltrated by a growth presenting the appearance of an epithelioma. The upper lid was edematous and obstructed sight of right eye. Eyesight not destroyed. Lympn glands not enlarged.

Operation.—The lower lid and tissues at base of lid were excised. Within a very short time the eye showed evidences of being affected by the malignant process. The right orbital cavity was cleared out. Shortly thereafter the patient died.

Microscopic Examination of Eyelid and Contents of Orbit.—The first specimen was completely surrounded by squamous epithelium which on one side was quite thin and had almost no papillæ. The epithelium increased gradually and extensions dipped deep down into the corium, forming anastomosing strands. The cells varied in size, and many contained numerous minute granules almost black in color. In a few places the cells were flattened and arranged concentrically, but had not undergone a keratin transformation. No mitoses. The second specimen showed large masses of adult connective tissue separating and surrounding irregular nests of cells. These cells had quite large spindle-shaped nuclei, vesicular in character. There was no limiting membrane, the cells lying free within the tissues. Numerous mitotic figures present. Round-cell infiltration quite well marked. Vessels congested; some interstitial hemorrhage present.

Pathologic Diagnosis.—Rodent ulcer.

CASE 15.—*History.*—Mr. C. W. N., aged 59, was admitted June 8, 1906. Was never ill until two years ago, when he noticed a small wart growing on penis near urethral opening. A few months later he consulted a physician, who burned off the wart. Contrary to expectations, the wound would not heal. Six months ago he was operated on, a portion of the penis being removed. He has become steadily worse and has lost considerable weight.

Examination.—Patient anemic and looked badly. The entire penis had been destroyed and was replaced by a large, foul sloughing ulcer. The testicles were swollen and the scrotum was edematous and ulcerated in places. The inguinal glands were swollen, tender and sloughing. The condition was pitiful and exemplified the distressing result of the physicians' failure to do a radical operation instead of a partial one.

Treatment.—Patient's condition did not warrant operation.

Pathologic Diagnosis.—Epithelioma of penis.

CASE 16.—*History.*—Mrs. R., aged 70, was admitted Dec. 10, 1907. Sixteen years ago she noticed a small, white, seed-wart on her upper (right) eyelid. It seemed to remain unchanged in size for twelve years, when it began to grow and shift its site from the outer third to near the inner canthus of the eye. Caustics, pastes, salves, etc., had been applied without benefit. Pain was not a prominent symptom. The growth increased very rapidly in size, a small nodule appearing near the margin of the lid.

Examination.—About half an inch above the inner canthus of right eye was a nodular, slightly ulcerating mass as large as a five-cent piece. The growth presented the usual characteristics of a rodent ulcer. On the border of the lid, near the inner canthus, was a small, hard whitish nodule about as large as a pin-head.

Operation.—Excision. Wound healed by granulation. Exposure to Roentgen rays twice a week. Recovery.

Microscopic Examination.—Specimen showed numerous nests of cells varying in size and shape. These nests were distinctly separated by connective tissue. The nuclei of the cells varied greatly in shape and staining qualities; the oval, deeply staining ones predominating. There was a very large amount of round cell infiltration and of congestion. No attempt at pearl formation.

CASE 17.—*History.*—Mr. J. J. D., aged 59, was admitted April 28, 1906. About two years ago he accidentally noticed that he had a small wart-like growth on the back of his left hand; it did not cause him any pain or discomfort until about six months later, when it began to grow. Various acids, pastes and other drugs were applied without success. Five months ago the growth became ulcerated and began to grow rapidly. Two weeks before admission he had a physician remove the growth, but when the sutures were removed, a week after operation, the physician found that the parts had not healed; the wound was gaping.

Examination.—On the dorsum of the left hand, between the base of thumb and index finger, was an irregular, exuberant ulcer, the size of a silver quarter. Axillary and epitrochlear glands not palpably enlarged.

Treatment.—*X*-ray exposures were given twice a week for some months. The parts healed and the patient discontinued his visits to the clinic.

CASE 18.—*History.*—Mr. G. S., aged 62, was admitted Oct. 14, 1907. Had a wart on his lower lip for twenty-five years, but it did not grow until two months ago. Lower lip had become swollen and the growth was the size of a filbert.

Examination showed patient well nourished and in apparent good health, except for the growth on and swollen condition of his lower lip. Near the center of the free margin of the lip was a scaly growth presenting the characteristics of an

epithelioma. The swollen condition of the lip did not appear to be due to the epitheliomatous growth only. The submental and the submaxillary glands were not palpably enlarged.

Having been so frequently impressed with the fact that a wart may suddenly show malignant changes, and appreciating the importance of early excision, the patient was admitted to have the growth removed. One day later, the entire lower lip was excised and the submental glands removed. The silkworm gut sutures were removed on the fifth day. Union was primary.

Pathologic Report.—The epithelium suddenly changed from the normal to an irregular layer of great thickness. Long finger-like projections of cells extended deep into underlying tissues. Throughout the greater part of the growth, the cell nests penetrated down into the muscular tissue and brought about an atrophy of the muscle fibers. Along the advancing periphery of the new growth there was a very marked infiltration of lymphocytes and plasma cells. The cells found in the nests were large and polygonal, and contained a large round or oval vesicular nucleus. Many of them showed varying degrees of keratin formation, and typical epithelial pearls were very numerous. The cells on the surface of the growth showed marked keratin formation and parakeratosis. On the mucous side of the specimen was found a small salivary gland. On the skin side were seen numerous hair follicles, sebaceous and sweat glands. Lying deeper within the muscular tissues were two bodies, circular in shape, with a surrounding rim of homogenous substance that stained with eosin. This ring enclosed a space in which were found several round and oval bodies that contained cells and nuclei enclosed within a definite membrane. In between these bodies was a small amount of granular pink-staining material. External to the capsule was a slight amount of round-cell infiltration. These masses lay embedded in the muscular tissue, and the adjacent muscle fibers had been flattened in varying degrees. The appearance was that of an encapsulated trichina. These bodies lay quite close to quite a large artery.

CONCLUSIONS.

1. The laity should be impressed with the danger of permitting warts and moles to grow, and should be urged to have them excised at once.

2. The early excision of apparently harmless warts and moles will save days of suffering; in many instances, the life of the individual will be saved thereby.

3. The moment that warts and moles begin to grow they are almost invariably already malignant growths and should be treated as such.

4826 Delmar Boulevard.

STATIC ELECTRICITY.

ITS PHYSICAL PROPERTIES, MODALITIES, PHYSIOLOGIC EFFECTS AND THERAPEUTIC INDICATIONS.

WILLIAM BENHAM SNOW, M.D.
NEW YORK CITY.

To standardize the therapeutics of static electricity properly a consideration of the type of apparatus and modalities employed is a question of first importance. There are three types of static machine at present in the market—the Holtz, Toepler-Holtz and the Wimshurst—which produce currents of practically the same quality but varying materially, other things being equal, in the potential as measured by spark-gap and shrdlu odhmc discharge when high resistance is placed in the circuit.

My experience and familiarity with static machines leads me to the conclusion that the Holtz machine, having from eight to sixteen revolving plates and being provided with an exciter, is the best type of machine for medical purposes. My reasons for this conclusion are: 1, During the administration of the Morton wave current, the modality of most importance in static therapeutics, this type of machine will produce, other things being equal, the longer spark-gap and discharge with the greatest degree of regularity; 2, this type of machine is more easily kept in repair; 3, when having the suitable number of revolving plates, sufficient current is evolved when running at a low rate of speed (300 to 400 per minute) without producing alternating oscillatory currents as is sure to occur with high speed machines.

For the evolution of currents of high frequency, in connection with the static resonator, a high-speed apparatus having a smaller number of revolving plates, in which a unidirectional current is not desired, the same objection does not obtain. The idea of inducing a general purpose current by employing a smaller number of revolving plates at high speed is not practical or scientific, for the quality of the current, as to proportion of potential and amperage, is not under control as it is when derived from a number of revolving plates sufficient to produce the current at a lower rate of speed. With high-speed machines the spark-length is deficient and the current is oscillatory or alternating in character.

At the present time the static machines of the Holtz type having sixteen revolving plates 30 to 36 inches in diameter and constructed with a high degree of insulation to prevent escape of the current to and through the case, and provided with a means of controlling amperage of the current without reducing the potential as measured by the length of the spark gap when administering the wave current, is the type of static machine most cordially to be commended. For most purposes, and for most patients when the employment of the *x*-ray and high-frequency currents are not taken into consideration, a static machine having eight revolving plates of the above type will meet most indications.

CLASSIFICATION OF STATIC MODALITIES.

Numerous static modalities are employed therapeutically, of which the following may be considered in order of excellence: 1, The static wave current; 2, the static spark; 3, the direct vacuum tube current administered in the same manner as the static wave current; 4, the static brush discharge; 5, the static induced current; 6, static insulation; 7, the static spray. In this classification we are not considering the high-frequency currents — auto-condensation, auto-conduction and the high-frequency effleuve — also produced by the static machine of a quality similar to the high-frequency currents derived from other sources.

The properties of the static current, which render it unique, are: 1, intensity of diffusion; 2, constant or unidirectional; 3, high potential, relative to small amperage; 4, ease of control of current as to periodicity or frequency, by regulation of speed and spark-gap, regulation of amperage and voltage by the same means, and the additional regulation of ground connection by placing in the circuit a variable resistance; 5, it is the only apparatus with which the current can be satisfactorily administered from one side of the machine with the other side grounded and the patient insulated, thereby producing unique physical and physiological effects not derived from other apparatus.

DIFFUSION OF THE STATIC CURRENT.

The remarkable degree of diffusion of the static current is evidenced by the passage of the current through materials which are non-conductors of other currents, as its passage through the length of a long platform with the discharge of a spark several inches in length, or the passage of the current through wooden electrodes—a

quality which makes necessary the employment of the best insulation in the construction of the apparatus. The contrast as compared with currents from other sources of energy or transformers is very striking. This quality of the static current is probably due to the mechanical character of its evolution, thrown out as it is by the rapidly-revolving plates and the fact that the two polarities are evolved when the speed is not too great, absolutely distinct under these conditions. In other words, there are no inverse currents as from a Rhumkorff coil.

CONSTANCY OF THE STATIC CURRENT.

The current from a static machine is constant—uniformly flowing in one direction from either one or both poles, if not run at too rapid rate of speed or altered by a short spark discharge or other oscillatory influence brought in the electro-static field. This quality is noted during the administration of a static charge or insulation when the current passes smoothly over the patient and escapes from the loose hair and other points which stand out from the surface of the patient, or his clothes. The oscillatory character and mechanical feature is derived from a short spark-gap in circuit, either with the wave current or static induced current, or during the administration of the disruptive or convective discharges.

The relation of amperage and potential from the static machine is most striking. An eight-plate machine, as shown by Prof. Samuel Sheldon, when in rapid motion, produces a current of one-fourth of a milliampere—one four-thousandths of an ampere—while the potential measured by the spark-gap is hundreds of thousands, approximately fifty thousand for each inch of spark length. A proportion of such marked contrast is not derived from any other source of electric energy. The current is harmless for therapeutic purposes, and it possesses a great capacity to awaken to activity by its remarkable energy of potential and diffusion.

CONTROL OF THE STATIC CURRENT.

The control or regulation of the current strength, potential and rate of interruption by means of the spark-gap and speed rate, is an invaluable feature in connection with the therapeutic administration of the current. With the unidirectional current from a properly constructed and insulated Holtz machine provided with a rheostat or mechanical speed controller, having a large number of steps, it is possible to regulate the spark discharge at the spark-gap to a uniform high or low rate of periodicity, and likewise to control the amperage and frequency in connection with the high-frequency apparatus. The amperage of the high-frequency current induced by a static machine and resonator may be greatly increased by placing in one side of the circuit a multiple spark interrupter, a prerequisite for the administration of the necessary current strength for auto-condensation applications from the Holtz machine.

The intensity of the wave current administered will depend largely on the character of the grounding which may be varied in the larger machines to regulate both amperage and intensity, by placing a resistance rheostat, such as the water rheostat I recently devised, between the negative pole of the machine and the earth.

The one pole administrations of the static machines, or the wave current and disruptive and convective discharges applied to the patient when insulated, are of the greatest value in therapeutics and are not capable of production with anything like the same quality from any other apparatus. It is to this type of administration with the important characteristics—diffusion and unipolar qualities—that the distinctive therapeutic value of the static current is chiefly due. Owing to this feature of the current it becomes practically a one-pole current—a current of one polarity—producing the characteristic effects derived from the passage of the positive or negative electrons throughout the body. By this form of administration the current is physically compelled to pass to and fro throughout the organism or locally with energy through any affected viscus or diseased tissues. It is owing to this characteristic that the administration of the wave current produces two important effects on the economy: 1, Local tissue contraction; 2, a constitutional effect due to the passage of the material electrons throughout the body, diffused in such a manner as to involve in their passage every part in its path to the surrounding surfaces.

The local administration induces a succession of diffused tissue contractions beneath the metal electrodes with intervals of relaxation synchronous with the spark discharge. This, when applied to congested tissues, softens the indurated structures by forcing the products of inflammation and stasis out into the circulatory channels, both vascular and lymphatic, thereby permitting the re-establishment of circulation in the involved tissues, and coincidently throwing into activity every part of the involved mass, restoring metabolism.

THE PHYSIOLOGIC EFFECTS OF UNIPOLAR CURRENTS.

The physiologic effects of these one-pole currents are readily appreciated when their action is understood. This has been demonstrated by those who have had experience in the treatment of inflammatory conditions, particularly as directed to the relief of local stasis with the prompt re-establishment of the normal functions. From these mechanical effects we must accord to the static current a pre-eminence in the treatment of non-infected inflammation. The indications conserved in the treatment of non-infected conditions are: 1, The relief of local stasis; 2, the re-establishment of circulation; 3, the institution of normal metabolism.

The general or constitutional effects arising from the passage of the currents to and fro through the tissues of the body render them particularly efficacious in therapeutics. The effect on arterial tension of the static wave current is generally to lower abnormally high tension, and also by re-establishing activity in the conditions of lower tension arising from lowered vitality to raise the tension by restoring tone and function. In other words, the disposition in the one class of conditions is to overcome contractions or tension in the muscular system generally, which are abnormal, and to increase nutrition in all conditions by re-establishing functional activities.

By the dual action of this current, the electric on the general and constitutional conditions, and the local mechanical, directed to the relief of inflammatory processes, infiltrations and congestions, these modalities or methods serve a most valuable purpose. When it is realized that this influence is exerted by a current of such small amperage, the effects being produced by the great potential of the current of electrons, resulting in the re-establishment of normal function without risk to cell structures, its great value becomes apparent.

These effects are not only demonstrated clinically but physically, rendering certain their indication and value in therapeutics. There are other qualities of the current as administered from the vacuum tube which deserve attention, viz., the antiseptic and actinic actions. Whenever an electric discharge takes place there is a chemical decomposition at the surface of the electrode

with the production of ozone and nitrous acid. Ozone possesses the power to attack or combine with organic substances, rendering them sterile by oxidation. Nitrous acid also possesses a marked affinity for water, and nitric acid is produced in minute particles, capable of affecting local processes to an extent varying relative to the amperage of the discharge. These antiseptic qualities are constantly greater from the larger ampere sources, but are also considerable from the static machine.

The actinic action of the current as derived from the effects of the higher light frequencies, represented by the violet tints accompanying the passage of the electrons in vacuum tubes, is the same as the effects of the corresponding light frequencies. The extent and value of these radiations and emanations possess a well recognized value, if not an exact established therapeutic status. Administered from the static machine with the vacuum tube connected direct from the machine, a method which I first described, they possess qualities combining the contractile effects of the other static modalities with these antiseptic powers. These qualities have been clinically shown to possess peculiar merit in the treatment of lesions of the mucous surfaces and of the skin, as well as being a convenient method of treating superficial inflammatory processes as sprains of small joints and enlarged lymphatic glands.

The therapeutic value of the static modalities, as based on the physical and physiologic effects, give them a very wide range of indication. Success or failure from their administration, however, depends on the technic employed. Three elements, too often neglected in the management of patients with these modalities, are: 1, The regulation of the applications as to the frequency of treatment; 2, the regulation in the matter of dosage; 3, the length of time devoted to the administration. After careful comparative tests, it has been definitely demonstrated that in the treatment of most inflammatory conditions, as well as when administered for the tonic effects of the current, the length of time devoted to the administrations of the wave current should not be less than fifteen minutes and not more than thirty minutes, the usual twenty-minute administration best meeting the requirements in most cases. The frequency of the treatment must be regulated by the conditions under observation so that the improvement is progressive. Experience has taught that in most cases these administrations should be given almost daily, and in some cases of acute inflammatory conditions, as sprains and sciatica, twice daily, until the patient is so improved that a relapse will not occur during a longer interval, when the treatment may be administered once daily or every other day until the patient is cured. The dosage in every case should be suited to the conditions.

RULES OF DOSAGE.

Four rules of dosage are well established: 1, The spark-gap when administering the wave current must not be made so long as to produce too severe pain throughout the inflammatory area, and the gap should be gradually lengthened as it becomes possible; 2, the spark-gap should not be so long as to produce spastic or too severe muscular contractions; 3, the static sparks should be regulated in their length according to the depth of the lesion or size of the part under treatment, from one-half inch to the fingers, to four inches over the knees and thighs; 4, the convective discharges should not be administered to the extent of local irritation.

A broad conception of the indications for the employment of the static modalities would indicate their use in all non-infected inflammatory conditions, internal and external, and for the energetic re-establishment of local and general metabolism. The following special indications are conserved by them:

1. The static spark and static wave current and, to a less degree, the brush discharge and direct vacuum tube current are the means *par excellence* for the treatment of all non-infectious joint inflammations.

2. In the treatment of uncomplicated neuritis in regions accessible (the only exceptions being within the pelvis, chest wall and bones of the skull) the static wave current, static spark, brush discharge and direct vacuum tube current, alone or in combination, are uniformly effective in skilled hands and the choice of methods.

3. In the treatment of spinal cord affections of a non-infectious inflammatory character, including tabes, anterior poliomyelitis, myelitis, syringomyelia and the dystrophies, the static wave current to the spine and periphery with addition of sparks in adults must be applied with great energy over the site of the lesion of the cord and without fear.

4. In the treatment of genital and pelvic conditions, non-septic in character, in accordance with the principles above given, the static wave current and direct vacuum tube current are effective in the following conditions: Uterine congestions and dysmenorrhea, subinvolution, cervical ulceration, salpingitis, ovaritis (which is usually secondary), urethral caruncles, vaginismus, hemorrhoids (not indurated), anal fissure, rectal ulcers, prostatitis (not removing hyperplasia), vesiculitis (specific and non-specific), congestions in the spermatic cord and canal between the internal and external rings, epididymitis, orchitis, chronic gleet, and impotency in many cases; in all of these cases named they are most effective, safe and cordially to be recommended.

5. In the following glandular congestions either the wave current or direct vacuum tube current are the choice of modalities. In enlarged and congested liver, spleen, simple adenitis, in mastitis, and tonsillitis before suppuration has advanced, over the pancreas in diabetes, the kidneys in Bright's disease, the adrenals in Addison's, and the thyroids early in simple and exophthalmic goiter, over the stomach and duodenum and ileum when secretions are abnormal or deficient, over a dilated stomach, and constipated bowels. In the above conditions the static modalities are very effective, more so than other agents in most cases because by inducing active energetic intrinsic contraction they remove congestion and infiltration and restore tone and metabolism.

6. Conditions of spasm or muscular contraction are relieved by the static modalities, particularly by the sparks and wave current, either through the secondary effect of relieving congestion, as in joint disease, or as in dysmenorrhea or vaginismus, or by direct antispasmodic influence in other conditions, as high arterial tension, and acute spasm as muscular cramp.

7. On general and local metabolism, when not complicated by organic disease, the static modalities, particularly the wave current, are remarkably efficacious and indicated as part of the régime in all cases because all of the functions are demonstrated to be quickened. Weight is increased, the hemoglobin percentage is increased, an approach to normal in blood count is induced, due undoubtedly to a quickening of cell activity throughout the economy owing to the stimulating influence of the rapidly moving electrons.

If those who have not awakened to the truth of these

statements will on investigation put the unused static machine in service they will find it one of the most resourceful means at command, and those who have not one will find an installation a profitable investment for themselves and their patients.

THE ETIOLOGY AND TREATMENT OF HYPERTROPHY OF THE PROSTATE.

A. J. CROWELL, M.D.
Professor of Genitourinary and Rectal Diseases in the North Carolina Medical College; Consulting Surgeon to Presbyterian Hospital.
CHARLOTTE, N. C.

It would seem that if hypertrophy of the prostate is due to atheroma, as is generally supposed, it would occur in more than 25 to 30 per cent. of all males past middle life, and I, therefore, believe that it is due entirely, or nearly so, to congestion or inflammation. Atheroma is frequent without hypertrophy, and *vice versa*.

Acute and subacute inflammations everywhere give rise to hyperplasia, and especially is this true in the prostate, which is abundantly supplied with blood vessels and highly cellular connective tissue. In the liver, kidney, spleen or any other glands of the body, hypertrophy or interstitial hyperplasia is always preceded by congestion or inflammation. These conclusions are the result of clinical observation and not of laboratory research. The general laws of pathology justify them.

The arteriosclerosis theory of Guyon has practically no adherents; nearly all authorities admit that congestion and inflammation will produce hyperplasia, and that this plays an important part in many cases of hypertrophy, the only difference of opinion being as to the manner in which hyperplasia produces hypertrophy.

As a basis for these conclusions, from a clinical standpoint, is the frequency with which hypertrophy occurs in comparatively young people. I have seen it in a boy 8 years old and in a number of men between 30 and 40, one of whom had complete retention for twelve years until operated on at 37. The claim may be made that the enlargement in the young is only a prostatitis. That is true, but when this inflammation has persisted until it produces obstruction it is as truly a hypertrophy as is adenoma of the prostate.

Inflammation is an effort on the part of Nature to repair an injury. The first stage in the process is congestion, which causes exudation of fluids into the tissues and also an infiltration of small round cells. When this infiltration has become a chronic process the new tissue becomes organized, and this is the beginning of the hypertrophy. That it is a true hypertrophy is not at all probable, as it occurs at a period of life when the functional activity of the gland is on the decline, while in other glandular organs it begins at a much earlier period.

Hypertrophy is an excessive growth or development of an organ. True, the action of a muscle tends to increase the circulation, and if long continued there follows hypertrophy or increase of substance, a physiologic process. Increased circulation, plus infection, will cause exudation of small round cells and hyperplasia—a pathologic condition. As this pathologic process continues the elements of the gland, whether glandular or fibrous or both, become increased. The glandular elements are increased first, the fibrous elements secondarily. Naturally, one expects the glands immediately surrounding the urethra to become involved first, and pathologists have shown that the central glands are first involved.

No reason can be given why the glandular form should be so much more frequent than the interstitial other than the continued irritation produced by the retained secretion of the acini, from complete or partial occlusion of the excretory ducts by the small round-celled infiltration.

After the occlusion of the glands the interstitial hyperplasia may cease, but the retained secretion will keep up the irritation of the acini, causing a multiplication not only of the cells but also of the acini. This is a plausible explanation of the occurrence of the adenomatous form in from 80 to 85 per cent. of the cases of hypertrophy. Furthermore, the fibrous and fibromyomatous form is most frequent in the young.

In the case of the boy of 8 the infection followed catheterization during an attack of typhoid, and it has continued to the present time. The boy now has a large fibrous gland, the enlargement being principally in the median lobe and practically free from inflammation. The bladder wall is not only thrown into rugæ, but two diverticula are developing on the posterior wall. There are 360 c.c. of residual urine.

Two other patients under my care at present have prostatic hypertrophy. One, a man, aged 34, has no residual urine, but he has a contracted bladder and urinates frequently. The other, a man, aged 37, has 450 c.c. of residual urine and an infected bladder, with the usual rugæ accompanying hypertrophy. Another patient had complete retention for four years previous to operation at the age of 41, and yet another, aged 59, had had complete retention for fourteen years.

Most of these patients gave a definite history of acute infection in young manhood, and all gave a definite history of chronic prostatitis. Of course, acute specific infection is not a pre-requisite to a chronic prostatitis, but it is the most common cause. There was no sclerosis, nor was there a history of injury to any nerve trunk.

These cases show that hypertrophy is not confined to the aged or atheromatous period of life, and also show that the condition is frequently found in patients in the prime of life. It must be admitted, however, that hypertrophy manifests itself most frequently in the aged, but the explanation for this is twofold: First, each year lengthens the time for infection and continued inflammation with its increasing obstruction; and, second, it occurs at that period of life when lack of tone and senile degeneration make themselves manifest. There is yet no record of any celibate undergoing operation for hypertrophy, a strong point in favor of infection as a cause.

TREATMENT.

If this theory be true, pathologic hypertrophy is a preventable condition in many cases, and the treatment is prophylactic, palliative and operative. The prophylaxis is prophylactic, palliative and operative. Prophylaxis consists in the application of heat, massage, dilatation and various medicinal remedies. The palliative treatment consists of catheterization, intravesical irrigation, vesical sedatives and urinary antiseptics.

The operative treatment is palliative and radical. Palliative measures, such as cystotomy, are only resorted to in extreme cases in which prostatectomy is not advisable. Prostatotomy, or the Bottini operation, is indicated in a limited number of cases—those in which the median lobe is small—and even these patients will do better with perineal section. The removal of the gland is advisable in all cases in which hypertrophy is sufficient to demand it unless the patient is *in extremis*.

I am in favor of the perineal operation. First, because it is in accord with the best laws of surgery in that it affords perfect drainage from the most dependent point; second, the ejaculatory ducts, seminal vesicles, prostatic urethra, bladder wall and the vesical sphincter are all left intact, continuous irrigation of the bladder may be kept up for twenty-four hours without soiling the linen, the patient can control his urine the second day after the operation, and is out of bed the third or fourth day, avoiding all the unpleasantness of having to lie in bed bathed in his own urine for two or three weeks, as is the case in the suprapubic operation. In the suprapubic operation not only are the prostatic urethra and ejaculatory ducts destroyed, but a large area of bladder wall is torn, thus opening up the blood vessels and lymphatics for infection, with very poor drainage. The argument has been advanced that the saving of the ejaculatory ducts is of little consequence, since the operation is seldom necessary except in men whose sexuality is unimportant on account of their age. In my opinion, however, the preservation of these ducts is of the utmost importance, and especially would this be true in the boy of 8, the young married man of 25, 34, 41, or even the man of 60 or 65. If for no other reason than to save these ducts, the perineal is the operation to be preferred. A number of cases could be cited in which the sexual powers were not interfered with, but, on the contrary, have been completely restored to normal.

BLOOD DEPLETION TO 296,000 IN PERNICIOUS ANEMIA WITH RECOVERY.

WILLARD J. STONE, B.Sc., M.D.
Attending Physician St. Vincent's Hospital.
TOLEDO, OHIO.

Reports of recovery in pernicious anemia, when the blood depletion reaches 300,000 or lower, are rare. In Quincke's classical case it reached 143,000 and the patient was said to have recovered, at least for a time. Very few cases, however, are reported in the literature approaching this figurative count. The word "recovery" is used tentatively in the case herewith reported, in the sense that two years have elapsed since this patient first came under observation with a return, as we understand generally the meaning of the term, to perfect health and ability to perform arduous manual labor for the past year. During this time the blood counts and hemoglobin percentages have reached normal limits.

As the blood counts approached the normal, normoblasts and megaloblasts could not be found in the smears (entirely absent for the past year), and the marked poikilocytosis present in the early specimens disappeared. Two years is, perhaps, too short an interval to speak of recovery in a disease so characterized by a tendency to relapse as primary progressive anemia, and still, to all intents and purposes, the patient is in perfect health

J. B. T., male, aged 27, farmer, was admitted to St. Vincent's Hospital as a patient of Dr. W. W. Coldham, with whom it was my privilege to see him, Jan. 4, 1906.

History.—The patient had never been out of the state, and had never been ill until March, 1905. Purpuric history, scurvy, lead intoxication and lues were excluded. Hemorrhoids not present. In March, 1905, the illness began with weakness, palpitation and dyspnea, loss of appetite and extreme pallor. The ankles and subpalpebral folds became swollen later. He partially recovered during the summer following (1905) and was able to resume his work for a short period.

The illness which brought him to the hospital began about one month before admission (early in December, 1905) with malaise, constantly increasing weakness, constant vomiting after taking food, and dyspnea. There had never been a history of urinary retention or loss of weight.

Examination.—When admitted, the patient was in a drowsy, semi-comatose condition, and unable to answer questions intelligently. The pallor was marked, and of a decided yellow tint. There had been no loss of weight. The panniculus was well preserved. More or less general edema was present, involving, especially, the extremities and face. The eyes were nearly closed. The liver was slightly enlarged, and the spleen was just palpable. Superficial lymph nodes not increased in size. Urine: Examination showed nucleo-albumin present in slight amounts, serum-albumin in considerable quantity, and a slight amount of albumose; otherwise negative. The urine was voided involuntarily during the first few days.

Blood: Jan. 4, 1906. Hemoglobin, minus 10 per cent. (Dare). An average of three counts from ear and finger give 296,000 red cells per c.mm. Poikilocytosis was marked (shadow forms, microcytes, macrocytes, and lance shaped forms were abundant). Few normoblasts and megaloblasts were present. White cells, 4,800; normal differential counts.

Treatment.—The treatment in the beginning consisted of sodium arsenite, gr. 1-10, hypodermically, every four hours, because of the patient's gastric disturbance and his inability to swallow during the first few days in the hospital. Strychnia and brandy were administered hypodermically for the impending collapse, and 500 c.c. normal saline solution were injected subcutaneously, every four hours, for two weeks. Nourishment per rectum. The sodium arsenite was continued during his stay.

Subsequent Blood Examinations.—Jan. 7, 1906. Hemoglobin, 10 per cent. (Dare); red blood cells, 582,400; color index, 0.8; marked poikilocytosis, with abundance of normoblasts; fewer megaloblasts; few myelocytes. The increase in the number of normoblasts and degenerate forms of leucocytes after three days of arsenic medication was very suggestive.

January 10. Hemoglobin, 15 per cent. (Dare); red blood cells, 972,000; color index, 0.7; marked poikilocytosis, but fewer normoblasts and degenerated leucocytes than before.

January 19. Hemoglobin, 20 per cent. (Dare); red blood cells, 1,286,300; color index, 0.7; leucocytes, 3,860; normal differential counts; poikilocytosis still marked; normoblasts diminishing; no megaloblasts found.

The improvement was rapid from this time on and the patient left the hospital five weeks after admission, Feb. 8, 1906.

Subsequent History.—The patient was able to resume work as a farmer in May, 1906. On Nov. 28, 1906, the hemoglobin was 81 per cent (Dare); red blood cells, 2,768,000; color index, 1.4; one normoblast was found in one slide, and a few atypically shaped red cells, but no microcytes or macrocytes.

The blood examination made on Oct. 19, 1907 (one year later) showed hemoglobin, 92 per cent. (Dare); red blood cells, 3,792,000; color index, 1.2; leucocytes, 3,733; differential counts within normal limits. No normoblasts were found; no poikilocytosis.

On Dec. 28, 1907 (two years from beginning of attack), the hemoglobin was 94 per cent. (Dare); red blood cells, 4,438,000; color index, 1.0; leucocytes, 4,320; normoblasts and megaloblasts absent. No poikilocytosis.

Subsequent Treatment.—The first three months after returning home he took small doses of Fowler's solution and dilute hydrochloric acid. Medicine has not been necessary for a year and a half. December, 1907, he weighed 181 pounds.

This case emphasizes the following points:

1. The immediate prognosis in certain cases of pernicious anemia, with blood depletion below 400,000, although serious, is not hopeless.

2. The prognosis depends on the degree of red cell regeneration in the bone marrow, the age of the individual and the potency of the hemolytic poison being important factors.

3. Arsenic exerts a rapid specific influence on the degree of red cell regeneration in certain cases of per-

nicious anemia, but whether through direct stimulation to bone marrow activity or through neutralization of the hemolytic poison, or both, is a point that remains to be settled.

236 Michigan Street.

A CASE OF TRANSIENT HEART BLOCK DUE TO INTESTINAL TOXEMIA.

FIELDING LEWIS TAYLOR, M.A., M.D.
NEW YORK CITY.

Patient.—R. E., Jr., aged 17, a robust school boy, was seen by me with the symptoms described below, on April 2, 1907.

History.—He is the third child of healthy parents who have been patients of mine for five years or more. There was no family history of importance except that his father is subject to attacks of intestinal fermentation with marked indicanuria and slight albuminuria without morphologic elements, and that his paternal uncles are of neurotic temperament. The patient himself is also subject to attacks of intestinal disturbance and suffers from constipation at times. In April, 1904, I treated him for diarrhea, at which time his physical examination was negative except for some pallor of the face and a systolic murmur at the base of the heart, which I attributed to anemia. His blood examination was negative except that the red cells were a trifle pale. His urine was negative. During the summer of 1906, while away on a vacation, he was confined to bed for more than a week with severe diarrhea. He is a good athlete and played quarterback that fall on the football team of a large preparatory school in New England. He also took part in the running and other athletic contests. Several times that year he was knocked senseless on the football field and once did not remember anything that occurred during the second half of the game after having received a blow on the head, although he continued to play. He came to see me on Nov. 5, 1906, looking pale and worn, and complaining of insomnia, which was worse for a night or two just preceding a football game. Physical examination was negative, except that his heart beat too forcibly, while both the first and second sounds were louder than usual and his pulse showed increased tension. His afternoon urine contained a "decided trace" of serum albumin, while the morning specimen showed only a "faint trace" or none at all. His blood count was normal. After a quiet two weeks at home he slept much better and the albumin disappeared. He was then allowed to return to school but was advised to avoid violent exercise, especially athletic contests, for some months. He disobeyed instructions, as I next heard of him as captain of the hockey team. On March 26, 1907, he came to New York City with some school friends, ate a very heavy dinner, drank several glasses of beer, and smoked excessively. Nausea, vomiting and headache resulted, which continued during the night and the following forenoon. All the succeeding week he suffered from indigestion and constipation. On Sunday, April 1, he felt exceedingly ill and decided to make an effort to get home as he thought he was going to have typhoid. He left school early Monday morning, vomited frequently during the six-hour journey, and could not retain anything on his stomach.

Examination.—When seen by me in the afternoon, he was ashy pale and seemed very ill. He was still nauseated and suffered from vertigo, which recurred several times in the next twenty-four hours. His temperature was 97.8 F., and his tongue was thickly coated. I was greatly surprised on feeling his pulse to find it beating at the rate of 28 to the minute, but it was quite regular and of remarkably good tension. The frequency of the radial pulse was uninfluenced by posture or slight exertion. The apex was high, just under and just within the left nipple, and dulness did not extend beyond the midsternal line toward the right. There was a faint systolic murmur over the apex which was not transmitted, and another, also systolic, over the pulmonary space. The examination of the lungs was negative and the spleen and liver were not enlarged. The abdomen was rather distended and slightly tender, particularly in the epigastrium. Thinking that perhaps some of the pulsations of the ventricle did not reach the wrist, I listened very carefully, and it seemed to me that I could occasionally make out an almost inaudible sound between the slow and pronounced pulsations at the apex. These pulsations could not be counted with even an approximation to accuracy on account of their feebleness. A very distinct venous pulse, however, could be both seen and felt in the jugular vein, which beat at the rate of 96 to 98 to the minute. So far as I could determine by inspection and palpation, this venous pulse did not seem to bear a simple relation to the pulse at the apex. To determine with certainty whether the block was complete or partial, tracings should have been made of the apical, jugular and radial pulsations. Blood examination showed hemoglobin, 80 per cent.; red cells, 5,120,000; white, 2,000. He voided ten ounces of urine Monday evening, which was all he had passed in twenty-four hours. It was clear, dark red; sp. gr., 1.033; decided trace of albumin present; urea, 2 per cent.; no bile; no sugar; large amount of indican. Microscopic examination showed a few hyaline casts and some renal epithelia.

Treatment.—He was purged with calomel, put on an alkaline diuretic and a limited quantity of peptonized milk. The following day his urine increased in quantity and indican fell off, while his pulse was slightly accelerated. It increased to 40 the third day, to 50 the morning of the fourth day, and that afternoon rose to 72, with the loss of an occasional beat; the venous pulse had by this time disappeared.

The clinical characteristics of Adams-Stokes disease are: 1. Bradycardia of shorter or longer duration. 2. Venous pulse in the neck. 3. Cerebral disturbance which may vary from weakness or slight vertigo to severe epileptoid convulsions or Cheyne-Stokes respiration. Heart block is said to be complete when the pulsations of the auricle and ventricle, as shown by tracings, bear no definite relation one to another. It is said to be partial when there is a definite relation between the two, so that every second or third or other small fraction of the pulsations originating in the auricle do reach the ventricle. Then these curves show a fixed relation to each other.

The condition is due primarily to interference with the bundle of His, a muscular bundle which passes forward from the coronary sinus through the interauricular septum to the central fibrous body of the heart, on which it forms a plexus. One of the bundles from this plexus breaks through the fibrous body into the interventricular septum and is distributed subendocardially to the right and left sides of the latter.[1] This is said to be the only muscular communication between the auricles and the ventricles.

His[2] succeeded in sectioning this bundle which he had previously demonstrated and bringing about complete disassociation of the auricular and ventricular rhythm. Gaskell[3] was the first to demonstrate the fact that in tortoises constriction of the circular layer of muscle at the auricular ventricular junction inhibits the normal rhythm of the heart, so that the auricles and ventricles beat independently. The work of A. F. Stanley Kent[4] on the structure and function of the mammalian heart should be read in this connection.

A case similar to mine is recounted by Babcock,[5] which occurred in a young officer of the army with a good family and personal history. This man presented indicanuria and other digestive disturbances at the time of his attacks. A study of a case which occurred in the

1. Ewart: Progressive Medicine, September, 1906, p. 74.
2. Arb. a. d. Klin. zu Leipzig, 1893, p. 23; Centrbl. f. Phys., 1895, ix, 469; Deutsch. Arch. f. klin. Med., 1899, lxvi, 316.
3. Jour. Physiol., 1883, iv, 43.
4. Jour. Physiol., 1893, xiv, p. 233.
5. Diseases of the Heart and Arterial System, D. Appleton & Co., 1893, New York and London.

service of Dr. Osler at Hopkins, by Joseph Erlanger,[6] is most instructive. This patient recovered under iodids.

Ashton, Norris and Lavenson[7] give a full account of this affection and report a case with autopsy. Here almost complete division of the bundle of His was caused by gummatous infiltration.

Another recent case with autopsy showing fatty degeneration of this bundle is reported by Butler,[8] of Brooklyn. Stengel[9] carefully reports a case which microscopically presented marked atheromatous changes in the region of the bundle of His.

The bibliography of this affection is already very extensive; much of it is referred to in the articles mentioned, from which I have quoted freely.

173 West Seventy-third Street.

HOW THE MALARIAL PARASITE PERPETUATES ITS EXISTENCE.

ALBERT WOLDERT, M.D.
TYLER, TEX.

Observing that malarial fever may occur during any month of the year, in any climate, and in regions where there are no mosquitoes, one is often asked the question: "In the beginning of the year, where does the malarial parasite come from?"

Before the days of the discovery of the fact that the *Anopheles* acts as the carrier of the malarial parasite, the above question was impossible of solution, and, indeed, some time after that discovery had been made known to the world through the researches of Ronald Ross and others, some observers were slow in being convinced in regard to the true etiology of this disease. Having considered the fact that malarial fever became more prevalent during months of the year when the weather was warmest, and when vegetable and organic matter was most subject to decay, the opinion became current that the cause of malarial fever was generated or reproduced itself in the soil, or air, or else in stagnant water, where such decay was going on the most rapidly.

Subsequent investigations made by Ronald Ross, Koch, Grassi, Marchiafava, Bignami and others abroad, and by Thayer and others, including myself,[1] in America, and still later by the investigations in regard to the etiology of yellow fever, have demonstrated how opinions firmly grounded when based alone on the process of observation and not confirmed by experiment may lead one into serious error.

Slowly, the facts regarding the etiology of malarial fever gained a foot-hold and at last have been incorporated in the medical text-books of the present day.

Though many of the discovered truths had become firmly established as to the method of conveyance of malarial fever from man to man, there were many who could not give up the old belief that malarial fever might be contracted through the medium of the inspired air, or drinking water, and even after these opinions had almost been dispelled, there still remained a lingering fear that these discoveries might be follacious, since it was pointed out that malarial fever might occur during the winter months, and in regions where there were no mosquitoes. The statement had been reiterated that there were two hosts only which harbored the malarial parasite, the *definitive* host (man), and the *intermediate* host (mosquito), and as it could be demonstrated that malarial fever might occur in regions where there were no mosquitoes, the *presumed* axiom "no mosquitoes, no malarial fever" was challenged and frequently denied.

Since experience had taught that malarial fever was more common in the fall, and gradually disappeared as winter approached, to reappear in the spring, it seemed as though there was a gap somewhere in the formulated theory as to the life cycle of the malarial parasite. The next questions to determine were, how does the malarial parasite perpetuate itself, and what becomes of it during the winter months?

In order to answer these questions more fully it becomes necessary to compare the life cycle of the malarial parasite with that of some of the other disease producing micro-organisms. Comparing the malarial parasite (an animal organism) with micrococci (vegetable organisms) we are struck with the complex life of the former. In the reproductive process of the micrococci, for instance, there is a cleavage along certain lines, and one micrococcus splits into two micro-organisms, producing diplococci. Sometimes the cleavage occurs in three directions and sarcinæ are produced. If the cleavage is always in the same direction, long chains of organisms, streptococci, are produced, and if into groups, staphylococci are found. The bacilli divide transversely and arrange themselves into threads, and, as in case of the tetanus and anthrax bacilli, contain spores.

The life cycle of the malarial parasite is quite complex. Being of a higher order, and of an *animal* nature, it requires for its growth and development a certain amount of heat and darkness, and a certain amount of albumin or living protoplasm. While many of the vegetable organisms, such as the tetanus and plague bacilli, may grow in the soil and sometimes in the water (typhoid bacillus) the malarial parasite would undoubtedly perish if it did not obtain for its nourishment living protoplasm.

It is probable that the cause of yellow fever is an animal organism, partaking somewhat of the nature of the malarial parasite, and found in its permanent host, the blood of man.

Perhaps, by a process of *natural selection*, it is necessary that the malarial parasite should be withdrawn from the human blood, and be changed in the body of the mosquito from the full grown or flagellated parasite to the spindle-shaped spore, to be in this form transmitted back to man, for the reason that it could not seemingly otherwise escape from its permanent host (man) and be again introduced in a *living* form into some other living body.

Shortly after the discovery of the malarial parasite by Laveran, investigators began a closer study into the nature of the different forms of this organism, and most of them came to the conclusion that the estivo-autumnal parasite was the one most responsible for the pernicious types of malarial fever, and the one which to the greatest degree resisted the action of quinin. While it appears true that the estivo-autumnal parasite may give rise to very pernicious forms of fever, one must

6. Jour. Exper. Med., Nov. 20, 1905, and Jan. 25, 1906.
7. Amer. Jour. Med. Sci., January, 1907, p. 28.
8. Amer. Jour. Med. Sci., May, 1907, p. 715.
9. Amer. Jour. Med. Sci., December, 1905, p. 1083.
1. Trans. College of Physicians of Philadelphia, Third Series, vol. xxii, 1900; also JOURNAL A. M. A., March 2, 1901.

not lose sight of the fact that the tertian type may also be very resistant to the action of quinin, often appearing to survive the administration of over 100 grains and go on hibernating and sporulating in the patient's blood throughout the winter months.

SOME CASES OF MALARIAL FEVER WHICH HAVE OCCURRED DURING THE WINTER MONTHS.

CASE 1.—Dec. 29, 1905. *History.*—Q. H., white, aged 6 years, never seriously ill until two years ago, when he had several attacks of tonsillitis.

Present Illness.—Began Oct. 1, 1905, with a "dumb" chill, followed by fever. The second chill occurred two days later. For this attack he took quinin and had no more chills for twenty-one days. He began taking quinin Dec. 29, 1905, at 3:30 a. m., and had taken about 9 grains previous to the time the blood was obtained at 9:30 a. m. December 29. It was believed by the father that the tonsillitis was the cause of the fever.

Examination.—The spleen was enlarged (though in my experience it is about as frequently not enlarged in recurrent cases), and was palpable two or three inches below the ribs. The boy had a blanched appearance; hemoglobin, 60 per cent. The blood was stained by the Wright method and showed one crescentic estivo-autumnal parasite, containing black pigment granules, arranged in the shape of a wreath near the center of the parasite. In another specimen of blood obtained at the same time and stained by the Woldert modification of the Nocht-Romanowski method, I found two small merozoites with blue protoplasm and one dot of red nuclear chromatin clinging just within the edge of a red cell. In two crenated red cells I found one merozoite in each which had an irregular protoplasmic body and one dot of red chromatin. Two other red cells were found containing small forms of merozoites exhibiting one dotlet of nuclear chromatin.

CASE 2.—Jan. 12, 1906. *History.*—The patient, a boy, 13 years of age, in August, 1905, began to have "dumb" chills. During October, 1905, he had three chills, recurring about every seven days. For this attack he began to take tonics. He afterward had three "dumb" chills during November, which paroxysms occurred every seventh day. In December he had about four shaking chills. The last chill occurred Jan. 11, 1906. About January 1 and 10 he had shaking chills.

Examination.—The blood was obtained on Jan. 12, 1906, at 7 a. m., and was stained by the Wright and also by the modified Nocht-Romanowski method, and showed attached to the red corpuscles the ring form of parasites, with only one dot of red nuclear chromatin. In other microscopic fields I found large and small ring forms, each of which contained only one granule of nuclear chromatin.

CASE 3.—Jan. 23, 1907. *History.*—The patient, a physician, aged 25 years, had never been seriously ill previous to July 14, 1906, when he went fishing on the Neches river in Texas, and at noon on July 17, while still in camp, he began to suffer from severe abdominal cramps, soon followed by nausea and vomiting. Later he developed a severe form of urticaria, which bothered him severely for several hours, passing away entirely after three or four days. On the morning of July 17 he had a high fever, which seemed to decline about 11 a. m. July 18 he had another attack of abdominal colic followed by fever. July 20 he began taking quinin (15 to 20 grains daily), continuing it for about ten days. The quinin was then discontinued and at the end of three or four days the fever returned, and he again took quinin for three or four days. The fever continued for about three weeks.

Present Illness.—Began at 11 a. m. Jan. 18, 1907, with sudden cramping in region of stomach accompanied by severe vomiting, and within half an hour he began to suffer with urticaria lasting a day or two. There was no fever on January 19. At noon January 20 he again suffered from an attack of cramp colic followed by a shaking chill and fever. On January 22, at 2 p. m., he had another shaking chill, followed by high fever. On this day at 6 p. m., he began taking quinin, and up to January 23, at 2:30 p. m., had taken 25 grains. The blood, stained by the modified Nocht-Romanowski method, showed tertian rosette forms of parasites containing three or four segments of red nuclear chromatin. Half-grown and smaller forms were also present. The stippling (tüpfelung of Schüffner and Goldhorn) of the infected red cells was marked.

CASE 4.—Feb. 22, 1907. *History.*—Man, 22 years of age, gave a history of having had chills two years previously. December, 1906, he had two or three chills, coming on every two days, except one day, when he had two chills. For this attack he took quinin. He felt well until Feb. 19, 1907, when he had fever, followed by a chill. At this time he was examined, and the tongue was found in a moist condition and clean. The spleen was not enlarged and not tender. Some tenderness existed over the gall bladder. At 11 a. m. February 21 he had another chill, and then two specimens of blood were stained as above and showed in one microscopic field the signet ring form of the estivo-autumnal parasite (described by Ewing) containing one dotlet of red nuclear chromatin, while in another microscopic field a larger signet ring form was observed, which contained two granules of red chromatin.

Formerly it was held that quinin was a specific for malarial fever and (*while it undoubtedly stands to-day the best of all drugs for this condition*) is was believed that the administration of only a few doses of this drug would eradicate the disease. If there was a recurrence of chills and fever two or three weeks after the initial fever, this was looked on as a fresh invasion, and a few more doses of quinin would be given for the supposed new attack. After further investigations had been made on this subject, it was demonstrated that a few grains of quinin would not make all malarial parasites disappear from the blood, and it is now known that a recurrence of chills and fever a week or two, or often a month or two (as frequently observed during the winter months) after the initial attack, should be looked on as being a relapse of the old disease, produced by an increase in the number of the parasites.

I wish to cite a case of tertian malarial fever in which the patient, after having taken more than 200 grains of quinin, followed later by a tonic, suffered from a relapse of the disease.

CASE 5.—*History.*—Initial attack, October, 1905, with recurrence in February, 1906. Mrs. B., aged 36, large and plethoric. On Oct. 24, 1905, at 10 a. m., had a "dumb" chill. On October 26, at 2 p. m., she had another "dumb" chill. The tertian paroxysms now changed into the quotidian, and she had a shaking chill October 27, at 3 p. m., and October 28, at 11 a. m.

Examination.—Oct. 28, 1905, at 4 p. m., a drop of blood was stained (modified Nocht-Romanowski method), and exhibited two groups of the tertian malarial parasite, hence the case was one of double infection. On examination of the room, I found *Anopheles quadrimaculata* present in abundance, in fact the *Anopheles* was more numerous than the common house mosquito (Culex).

Subsequent History.—Quinin was administered in the manner suggested by Koch, giving the drug for four days, then leaving it off three days, then four more days of quinin and leaving it off for three days, and finally four more days of quinin. After a few days the patient got up out of bed and began taking a tonic, and seemed as well as usual for two months. (Altogether she had taken over 200 grains of quinin.) In January, 1906, she began to exhibit peculiar nervous symptoms, such as twitching about the mouth, tremors, and a feeling as though the blood was "rushing to the head." Feb. 26, 1906, she had a "dumb" chill at 3 p. m. February 28 a slight shaking chill occurred, accompanied by general body pains. The blood examination February 28 revealed the tertian malarial parasite still present in double infection.

This case again illustrates how easy it is for certain forms of malarial parasites to resist the action of quinin, how easy it is for the parasite to reside in the human blood all winter, and how hard it will be to exterminate the disease in any given locality.

In Texas, for instance, my investigations[2] have shown that the annual expense to the people arising from malarial fever, is about $5,000,000 and during the same period over 3,000 people die as a consequence of the disease.

When it became fully demonstrated that *Anopheles* acts as the carrier of the malarial parasite this presumed axiom (?) was formulated: "No mosquitoes, no malarial fever." This statement was not broad enough and neither was it correct. It failed to take into consideration the fact that malarial parasites may remain latent in a patient's blood for many months, be transported for thousands of miles, and give rise to chills and fever in localities where it would be impossible for mosquitoes to exist. But it can now be said with truth, that where there are no mosquitoes no *autochthonous* cases of malarial fever can arise. Just how long a time the malarial parasite may lie dormant in the human system previous to becoming active is not known, but a case has been reported in which the parasite seemed to have lain dormant for nearly two years.

In order to produce an attack of malarial fever, it has been calculated[3] that at least 250,000,000 of the parasites must be present in the human body.

Clinically the fact that the malarial parasite may lie dormant in the human blood for many months without giving rise to symptoms, can be proved by going more fully into the history of cases of chills and fever occurring during the months of December, January and February, when mosquitoes are not usually seen, and it will be found in practically every instance that these patients suffered from malaria during the preceding fall.

Craig reports[4] 395 cases of latent or masked malarial infections occurring in soldiers returning to the United States from the Philippines. Of 1,267 soldiers, ill of various diseases and returning from the Philippines, Craig proved that 25 per cent of them showed malarial parasites in the blood, unaccompanied by clinical symptoms or masked by symptoms of some other disease. These patients brought their infection with them a distance of several thousand miles and across the Pacific Ocean.

LENGTH OF LIFE OF A MOSQUITO.

The length of time a mosquito may live in temperate zones has not yet been absolutely determined. In Philadelphia I kept one living in a glass jar and fed on bananas, from October 28 to December 26, or sixty days. At that time I submitted proof[5] that some mosquitoes may live in the latitude of Philadelphia during the months of December, January, February, March and, in fact, throughout the entire year. In Tyler, Texas, I found[6] larvæ of *Anopheles* living on the surface of water of a small pond in midwinter (December 21, 1902) and after freezing weather.

Dr. Alfredo Austin of Tamaulipas, Mexico, has informed me that he has kept mosquitoes in captivity for a period of four months, their only food being water on a moistened sponge.

It is undoubtedly true that mosquitoes may live and propagate in regions near the Arctic zone. Rear Admiral George Wallace Melville informed me that he had found mosquitoes within 500 miles of the north pole, in latitude 65 to 78 degrees N. Mosquitoes are said to be so numerous in regions near the north pole that animals coming southward during certain months of the year are driven back north again by the swarms of mosquitoes infesting that country. The determination of the length of life of this insect is of special interest in the prevention and prophylaxis not only of malarial fever, but also of yellow fever.

I have stained specimens of malarial parasites taken from cases of malarial fever occurring in every month of the year. In every instance but two, the specimens were stained by my modification of the Nocht-Romanowski method, and in these exceptions the carbol-thionin and Wright methods were used. The types of malarial parasites found in the peripheral blood were as follows: *January,* tertian merozoites and a few rosettes. *February,* estivo-autumnal ring and signet ring forms. *March,* tertian rosettes and many rings forms. *April,* tertian rings and full grown forms. *May,* half grown tertian forms. *June,* tertian forms. *July,* tertian rosettes. *August,* estivo-autumnal rings. *September,* estivo-autumnal rings. *October,* swollen estivo-autumnal rings. *November,* estivo-autumnal rings and full-grown forms. *December,* crescents and estivo-autumnal merozoites.

CONCLUSION.

This paper does not specially consider that phase of the question dealing with the spores of the malarial parasite which may lie dormant in the tissues of the mosquito, nor with those forms of malarial parasites found in the blood of birds, reptiles, and some of the lower forms of animal life, nor whether such parasites may be communicated to man and back again to the lower animals through a transformation of type which Koch unsuccessfully endeavored to determine,[7] but my series of cases do exhibit specimens of human malarial parasites I have taken from the peripheral circulation in cases of malarial fever occurring in every month of the year (during winter, when there are presumably no mosquitoes, and also during the spring, summer and fall, when they are abundant), therefore no one can escape the conclusion that the malarial parasite may live and thrive during the winter months, without the existence of mosquitoes, and that *man* is its permanent host.

2. Am. Jour. Med. Sciences, March, 1903.
3. Instructions for the Prevention of Malarial Fever. Issued by the Liverpool School of Tropical Medicine, 1900, 5th Edition.
4. Am. Med., Oct. 29, 1904.
5. THE JOURNAL A. M. A., Feb. 10, 1900.
6. Am. Med., March 24, 1906.
7. Brit. Med. Jour., Feb. 10, May 12, June 30, Sept. 1, Nov. 24, 1900.

THE SYSTEMATIC OCCUPATION AND ENTERTAINMENT OF THE INSANE IN PUBLIC INSTITUTIONS.

EUGEN COHN, M.D.
First Assistant Physician, Illinois Southern Hospital.
ANNA, ILL.

When passing through an institution for the care of the insane the visitor is usually impressed with the same unhappy picture, namely, the great number of patients sitting about, in the rooms and corridors of their wards, with no occupation whatever, careless and indifferent, compelled to remain thus practically hour after hour, day after day, many of them even year after year. Can we wonder that so many of our insane descend step by step to the most hopeless dementia? Should we be astonished that the percentage of recoveries, or improvement even, is relatively so small as long as this condition is permitted to exist?

There are probably few hospitals for the insane which do not deplore this condition. On all sides efforts are

being made to relieve this situation. The question naturally arises how best to supply occupation and entertainment to these people. Each hospital endeavors to furnish as many of its patients as possible with suitable work in the different departments of the institution, such as the laundry, sewing-room, the farm, garden, the dairy, the shops, in fact in all its avenues of employment. We can not deny that to some degree a selfish motive exists, namely, the question of economy in the saving of labor, but this does not lessen the benefits derived by the patients from these occupations.

The different legislatures of the country are awakening to the fact that occupation must be supplied to the inmates of our asylums, and they are more liberally than heretofore appropriating funds with which to build industrial buildings, where the different trades and mechanical arts may be carried on.

Institutions vary greatly as to the amount of industry at their command. Yet the fact remains that even those institutions which are fortunate in having a comparatively large amount of industry within their boundaries can, with very few exceptions, only give systematic employment to a limited percentage of their patients, and that number is usually, or practically always, overshadowed by the number of those who are not systematically employed. Besides the lack of funds to construct industrial buildings, the deficient mentality of a certain number of patients renders them unfit for many pursuits. And, again, there are risks for the safety of the patients and others, which must be considered, though the number of this latter class is exceedingly small when placed under proper guidance and amidst favorable surroundings.

Here are men and women, torn away from their home ties, some from occupations connected with vigorous bodily labor, and the tremendous harm that could be produced by this suspension of exercise of all kinds while the body is still strong and active, must not be underestimated. The plea of lack of industrial means seems an insufficient excuse. A hospital with even limited advantages should arrange methods and means by which these pitiful subjects can receive that which they need and crave—occupation and recreation for their weakened minds and inert bodies.

A brief mention of the method which has thus far offered to me the best solution of these difficulties may not be uninteresting. There is nothing new employed in this method, except, perhaps, the system connected therewith. Its real value lies in the absolute regularity and exactness of its use.

Its main feature is a systematized schedule which satisfactorily accounts for every hour of the patient's day.

After carefully considering the individual needs of each ward as to the class of patients the ward contains, a schedule is arranged in which explicit directions are given how every waking hour must be employed. Only the medical officers have authority to change these arrangements. Physical exercises are provided in the form of outdoor walks, graded calisthenics at regular intervals, and general ward work. Mental occupation is furnished by the use of various games, reading material, picture books, drawing books, colored crayons, and other light pastime with which the mind may be occupied. General kindergarten and primary school work is a splendid method for the entertainment and re-education of certain classes. Classes in needlework for the women should not be neglected, as this is greatly enjoyed by many.

The ward is provided with a sufficient number of folding tables to seat every one comfortably. When not in use the tables are folded and put away. They can be set up quickly when the hour arrives for mental occupation. A ward having an average of forty patients receives from twelve to fourteen tables, and is provided with something like a dozen sets each of different games, such as checkers, lottos, dominoes, authors, crokinole and playing cards. From forty to fifty books are provided, ranging in character from the simple picture book, such as would amuse a little child, to reading material for the adult of average intellect, juvenile books, however, predominating. A few selected daily newspapers and monthly magazines are to be recommended. Other means, too numerous to mention, could be provided.

The occupation of the individual patient must, of course, be directed in accordance with the degree of intellect evinced, and the employment of each patient is daily changed as much as possible in order to lend variety. The reading material is exchanged between wards from time to time.

This plan was first tried experimentally in a ward in which the patients were men, most of whom were in a mental condition termed as chronic. They were irritable, combative, and some even treacherous. Many of them showed histories stained by acts of violence. Dementia was present in greater or less degree in nearly all cases. Yet the method, as outlined, proved more than satisfactory in every way.

If this class of patients can be managed successfully it is surely reasonable to suppose that there are but few wards which can not be equally well provided for and which can not be benefited and entertained in a like manner. There are, of course, a certain number of patients in whom it is impossible to awaken even a spark of intellect. There are others, in the acute stages of mental disease, either in condition of extreme excitement or depression, for whom other measures must be instituted, such as are recognized as the modern therapy of acute psychoses.

Naturally, the cooperation of the attendants and nurses is necessary to the successful carrying out of this program, but this is easily secured by the proper enforcement of discipline. Attendants and nurses, in general, seem pleased with this arrangement, as it helps greatly to break the monotony of their routine work. And, again, the more intelligent of the patients soon learn to assist the attendants in teaching their less apt companions, in whose progress they seemingly take much interest.

With regard to calisthenics, there is no doubt that it is one of the most beneficial ways of providing physical exercise for the patients and can be made one of the best and most convenient methods to exercise and re-educate their minds. The drills should be made as attractive as possible, every effort being observed to employ the mind as well as the body. For this purpose the movements should be varied, continually offering something new to claim the patient's attention. A movement many times repeated presents no attraction and surely does not serve to stimulate the mental function, as it is apt to be executed in a purely mechanical manner. These exercises should be carried out with vigor and in such a way as to bring each set of muscles systematically into play. This serves, incidentally, as a possible means of regaining lost or interfered-with muscle control, be it of organic or functional origin.

Short and frequent drills should be given in preference to long ones. The work should be graded carefully, beginning with the less fatiguing and progressing to those of a more difficult nature. The movements should be executed at the command and following the example of the instructor. Movements in imitation of those employed in the pursuit of manual labor are especially beneficial, such as cutting or sawing wood, mowing grass, propelling a canoe, and so on.

During calisthenics proper methods of breathing should be encouraged, and special breathing exercises should not be overlooked. Rest at frequent intervals during drill is desirable. These intermissions can be filled by selections from the patients' glee club and by various musical and other numbers, contributed so far as possible by the patients themselves. Among a large number of patients some can always be found who possess musical and other talent, which should be encouraged and utilized for their own benefit, as well as for the edification of the fellow patients. Various simple plans could be suggested to fill these intermissions in order that they should become a source of real enjoyment to all. For instance, the patient who can play the violin in old-time fiddler's fashion can almost always be found, and where there is this particular kind of music, clog and similar dances may easily be arranged.

With reference to music, although its use is recognized as in many ways of great benefit to the troubled mind, it appears that it should be given a still more prominent place in the entertainment and treatment of the insane. It is frequently wonderful to observe the soothing effect of music on nearly all kinds of patients, the irritable and combative class as well as those in a depressed state of mind. Above all things, it tends to bring about a condition of cheerfulness and equability of temper, which is the first step to better things.

Glee clubs and other musical organizations should be formed, when practicable, among the patients, and those possessing musical talent should be encouraged in its use and development. Every institution should have its own band and orchestra recruited from among its employés and the more reliable class of patients. Frequent outdoor concerts should be given in season, and concerts, dances and entertainments of different kinds should be arranged for through the winter.

Base ball, basket ball and all manner of rational outdoor sports should be made available to both patients and employés, as both are in need of every healthful recreation which can be offered. Incidentally, we should not lose sight of the fact that a reasonable amount of "time off duty" should be allowed the employés, as they are thus better prepared for their daily tasks and more patient and cheerful in the performance of duties assigned them.

Though all patients in institutions are entitled to attend these entertainments, there is usually a tendency shown by the attendants in charge to regard them as intended only for such patients as are generally well behaved. This is a mistake. The patients deriving the greatest benefit from these amusements are those who are irritable, restless, depressed and indifferent. This should not be left to the choice of the patients themselves nor to the attendants, but should be under the direct supervision of the physician in charge, who alone should be the judge as to which patients should or should not attend the entertainments. An occasional disturbance caused by a patient should be considered of little importance compared with the benefit derived.

I believe that it would prove entirely feasible for an institution to provide itself with competent instructors of music, calisthenics and primary school work. With the methods thus briefly described it will soon become evident that the wards will take on a more cheerful appearance; the faces of the patients will be brighter; restlessness, irritable temper and violence will be observed to be much less, and the use of all kinds of restraints will be reduced. No doubt many patients can be, to some extent at least, reclaimed, re-educated and fitted for the more substantial pursuit of industrial occupation, though at the beginning of this treatment they gave little if any promise.

DIAGNOSIS OF TUMORS AND OTHER LESIONS IN THE CEREBELLO-PONTILE ANGLE.*

T. H. WEISENBURG, M.D.
Professor of Neuropathology and Associate Professor of Neurology, Medico-Chirurgical College, Neurologist to the Philadelphia General Hospital.
PHILADELPHIA.

The diagnosis of lesions in the cerebello-pontile angle does not, as a rule, offer much difficulty, but occasionally such a diagnosis is made only to find at operation or necropsy either an absence of a lesion or some other condition which gave sufficient symptoms for the diagnosis of a lesion in this area.

The present paper is concerned with the discussion of the value of different symptoms found in such lesions, and the report of five cases, in two of which a tumor growing from the dura covering the petrous portion of the temporal and the occipital bones gave some of the symptoms of a lesion in the cerebello-pontile angle, to such an extent that an operation was performed in one. In the third case, there was entire absence of headache, nausea, vomiting, vertigo and choked disc, and yet sufficient symptoms were present to indicate a lesion in the cerebello-pontile angle, to find at operation a cyst, with the consequent, almost total, recovery of the patient; the report of a case of abscess of the pia which simulated the symptoms of a tumor in this angle, and, lastly, the report of a case in which a tumor of the fourth ventricle, compressing the inferior vermis, indicated a lesion in the cerebello-pontile angle. These cases are selected for report among others because of their rarity, and as illustrations of the difficulty encountered in diagnosis. In three of these cases a necropsy was done.

The cerebello-pontile angle is that area between the lateral lobe of the cerebellum and the medulla and pons in which are located the eighth, seventh, sixth and fifth cranial nerves. Tumors of this area, as a rule, are fibromata, and grow principally from the eighth nerve, less frequently from the fifth and seventh nerves. Such tumors, especially those growing from the eighth and seventh nerves, are favorable for operative removal.

Lesions in this area may be classified according to their nature and origin. They may be fibromata, sarcomata, endotheliomata, fibrosarcomata, or they may be cystic. According to the location, they may grow from the eighth, fifth or seventh cranial nerves; secondly, they may grow from the substance of the cerebellum or pons, and secondarily involve the structures in this

* Read in the Section on Nervous and Mental Diseases of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907. The article is here abbreviated, but it appears in full in the Transactions of the Section and in the author's reprints.

angle, and thirdly, they may grow either from the dura covering the petrous portion of the temporal or the occipital bones, or from both, and secondarily involve the structures in this angle.

Inasmuch as tumors of this area, if sufficiently large, must involve the cerebellum, the motor fibers of the pons and the cranial nerves situated there, it is of the utmost importance to recognize the disease as early as possible, and, therefore, the early symptoms are of the greatest importance. These will depend on the situation of the growth. If a tumor grows from the eighth nerve, there will be, at first, diminution of hearing on the same side, with such irritating phenomena as buzzing, rushing, singing noises, etc. Later, this will be, replaced by total deafness. Very often, however, little attention is paid to the diminution of hearing or the noises in the ear, and the first symptom that the patient will complain of will be that of incoordination as a result of the pressure exerted on the lateral lobe of the cerebellum, or the early symptoms may be those which are the result of increased intracranial pressure, such as, headache, nausea, vomiting, vertigo and choked disc.

The eighth nerve has two divisions, the cochlear, which is concerned with hearing, and the vestibular, concerned with equilibration. Tinnitus or disturbance of hearing will, of course, occur if the cochlear division is involved, but if the vestibular part is also diseased, and this may occur in every case of tumor growing from the eighth nerve, there will be, in addition, a feeling of dizziness, giddiness or vertigo which may be associated with a reeling, swaying or staggering gait and sometimes the sensation of moving either of self or of objects. Cases have been recorded in which the vestibular branch alone was diseased. Mills[1] reported the case of a woman of 34, who had, at intervals, attacks of vertigo, during which she would have a tendency to walk to the left, with the sensation of her head swimming and of objects moving to the left. There was no disturbance of hearing.

Correspondingly a lesion growing from the fifth nerve will give numbness and pain in the face on the same side, to be followed by anesthesia and, if the motor part is involved, of weakness in mastication on the same side.

If a tumor grows from the seventh nerve, it may cause fibrillary twitchings in its distribution, and sometimes convulsions, which appear to be Jacksonian in character. Such was the case in one of the instances reported, Case 2. Here the spasms were limited to the entire distribution of the facial nerve, these coming on without any warning, being first tonic and then clonic in character, and lasting one-half a minute to a minute. It is important to recognize these, for such Jacksonian convulsions will, as a rule, be ascribed to cortical irritation. This is the second such instance reported, the first being a case of Dr. Mills,[2] and referred to and reported by Dr Mills and myself. In the former case a fibroma grew from the eighth nerve and involved the seventh nerve by pressure. The fibrillary twitchings and the convulsions may be succeeded by partial or total palsy in the distribution of the facial nerve, or there may be spasms in the partially paralyzed nerve.

If a tumor grows in the cerebellum and secondarily involves the structures in the cerebello-pontile angle, the first symptoms will, of course, be those resulting from cerebellar disease, and further symptoms will depend on what cranial nerves are involved. Occasionally, however, a tumor growing from the choroid plexus in the fourth ventricle, and compressing the middle lobe of the cerebellum, may give rise to the symptoms of a cerebello-pontile lesion, as in Case 5, in which the tumor grew outward from the fourth ventricle, into and involving the sixth and seventh nerves in the cerebello-pontile area.

If a tumor grows from the pons, and secondarily involves the structures in the angle, the early symptoms will depend on whether the motor or sensory fibers are involved, this causing spastic paresis or disturbance of sensation on the opposite side of the body. Such instances, however, are unusal.

As in two of the cases reported here, if a tumor grows from the temporal or occipital bones, and then involves the structures in the cerebello-pontile angle, the early symptoms may not be manifested until pressure is exerted on the different cranial nerves, pons or cerebellum. In the two cases reported here, the first symptom in Case 1 was right hemiparesis, followed by headache, increasing dizziness, cerebellar gait, disturbance of vision, left external rectus palsy, irritating noises in the ear, later complete nerve deafness, difficulty in eating, talking and swallowing, vertigo, nystagmus, weakness of the left seventh nerve, and later on involvement of the right palate and right vocal cords, ataxia of all the limbs, especially on the left side, a spastic condition on both sides, more on the right, with increased reflexes.

At the necropsy, a tumor was found, which grew from the dura of the petrous portion of the left temporal and occipital bones, and secondarily involved the cerebello-pontile angle. Evidently, in this case, the early symptoms were those resulting from general intracranial pressure, and secondly of an involvement of the cerebellum and nerves in the angle and those which resulted from the compression of the anterior portion of the pons and, lastly, some of the cranial nerves on the other side (Fig. 1).

In the second case, the first symptoms were those of irritation of the optic nerves, to be soon followed by diminution of vision and choked disc, then the general symptoms of brain tumor, such as, headache, nausea, vomiting, then the symptoms of cerebellar involvement on the left side, with weakness of the left sixth and involvement of the left eighth nerves, and on the other side paralysis of the right fifth, sixth, seventh, and eighth nerves with Jacksonian convulsions limited to the seventh nerve. Evidently, here the tumor involved the fifth, sixth, seventh, and eighth cranial nerves on the right side, and on the left the sixth and eighth nerves and the cerebellum. Here the tumor probably grew from the dura covering the right temporal and the right and left occipital bones.

Summing up, the symptoms of lesions growing from the dura covering the petrous portion of the temporal and occipital bones and involving the cerebello-pontile angle secondarily will be bilateral, the greater involvement being on the side of the tumor. There should be present, as in these two cases, implication of the cranial nerves on both sides, with difficulty in eating, talking and swallowing, because of the involvement of the bulbar nerves, incoordination in the limbs, depending on the side of the cerebellum diseased, the general symptoms of brain tumor, and, at times, spastic paresis of the

1. The Nervous System and Its Diseases, J. B. Lippincott Co., Philadelphia, 1898, p. 733.
2. Tumors of Cerebellum, A. R. Elliot Pub. Co., N. Y., 1905, Mills, Frazier, de Schweinitz, Weisenburg, Lodholz.

opposite side of the body because of pressure on the pons, all of these coming on gradually.

In both of the cases just enumerated, the possibility of basal syphilis or of multiple sarcomatosis was considered. Often diffuse syphilis of the brain and especially of the base will simulate all of the symptoms of a lesion in the cerebello-pontile angle, as in the case reported by Dr. Mills,[3] which was also studied by me. This man had headache, nausea, vomiting, vertigo, choked disc, left facial paralysis, loss of hearing, more marked on the right side, bilateral ophthalmoplegia, external and internal, incoordination of station and gait, hemiasynergia on the right side, abolished tendon reflexes in both upper and lower extremities, uncertain plantar reflexes and mental weakness. Microscopic examination showed an intense basal round cell infiltration and multiple areas of inflammation throughout the whole brain, extending from the gray into the white matter.

In this case, as in others referred to by Dr. Mills, it was difficult to make a differential diagnosis. The points in favor of a possible syphilitic condition are multiple cranial nerve palsies, especially of the third nerve, for it is hardly possible to have both internal and external ophthalmoplegia in a tumor of the cerebello-pontile angle or even in tumors growing from the petrous portion of the temporal bone. The onset of symptoms in cerebral syphilis is no more rapid than that which is encountered in tumors and the possible aid of a therapeutic diagnosis can hardly be relied on for it is well known that antisyphilitic treatment may cause a temporary improvement in lesions not specific.

When sarcoma grows in the brain it may manifest itself as a diffuse multiple sarcomatosis. This may involve either the nervous substance and the meninges or the meninges alone, when they appear in the form of small tumors or as a diffuse infiltration. When the brain and its meninges are implicated in sarcomatosis, in about two-thirds of the cases a tumor of the cerebellum is found. It is important to remember that when sarcomatosis is present the soft tumor masses grow into the pia about the cranial nerves and spinal roots and may produce little or no compression or destruction of the nervous tissue. It is because of this fact that few clinical symptoms may appear, although there may be extensive alterations in the nervous tissue. In such instances it would be difficult to make a differential diagnosis from multiple cerebral syphilis. In both there may be general symptoms of tumor, plus multiple cranial nerve palsies, and the only possible differential diagnosis might be the presence of sarcomatous tumors elsewhere than in the nervous system. The differential diagnosis from a single tumor in the cerebello-pontile angle would also be very difficult, the points in favor of the former being the greater cranial nerve involvement.

Occasionally, cysts will grow in the cerebello-pontile angle, but their diagnosis will offer no special difficulty, for the symptoms will depend on the cranial nerves involved and the extent of implication of the cerebellum and pons. It should be remembered, however, that cysts may not cause as much pressure as tumors, and, therefore, the general symptoms of intracranial pressure may be absent, as in Case 3, in which there was no headache, nausea, vomiting, vertigo or even choked disc, and the diagnosis was made on the involvement of the left sixth, seventh and eighth nerves and the left cerebellar symptoms.

Rarely, as in Case 4, will an abscess in the pia give the symptoms of tumors in the angle. The diagnosis should not, however, offer very much difficulty for, as in this case, there will be a history of a middle ear disease, with secondary meningeal involvement, and there may be paralysis of the sixth, seventh and eighth nerves and some cerebellar symptoms. It is interesting to note that so far as known by the writer this is the only case of pial abscess correctly diagnosticated in life and proved by microscopical examination.

So far not much reference has been made to the general symptoms of brain tumor found in lesions of tumors of this angle. These symptoms will be taken up in order and discussed.

Headache, as a rule, comes on early and is mostly occipital and liable to be limited to the side of the lesion. Sometimes, however, as in Case 3, headache is a late symptom and in some instances it may not occur at all.

Nausea and vomiting are supposed to be common symptoms, and yet in three of the cases here reported they were absent, while in the other two these symptoms were not marked. In another unrecorded case of the writer in which the symptoms were indicative of a cerebello-pontile tumor, and in which choked disc of eleven diopters was present, showing the greatest amount of intracranial pressure, nausea and vomiting were not present. In my opinion these symptoms are not as frequent in lesions of the cerebello-pontile angle as they are in other cranial tumors.

Vertigo is one of the commonest and earliest symptoms and yet considerable confusion still exists as to its cause and definition. It is variously described, sometimes as giddiness, dizziness, a fainting feeling or a sense of rotation either of self or of external objects. It is probable that all of these are dependent on the same cause, and that the different descriptions are according to the severity of the symptom. An attempt has been made by Grainger Stewart and Gordon Holmes[4] to differentiate the forms of vertigo into, first, the sense of movement of self or surrounding objects, and, second, an indefinite sensation, generally described as a giddy feeling. In both intra- and extracerebellar tumors the external objects in front of the patient move from the side of the lesion to the opposite side, this being also true of the subjective rotation of self in intracerebellar lesions, but in extracerebellar tumors the subjective rotation of self is from the healthy toward the side of the lesion. These symptoms would be valuable in differentiation between intra- and extracerebellar tumors, were they present in all cases, but in my experience this differentiation could not be made, for in my own cases the sense of rotation of objects or self, while it has been present, has always been more or less indefinite.

In the second form of vertigo, described by Stewart and Holmes, the patient suddenly becomes dizzy, generally after some abrupt movement, the surroundings become dark, and there may be numbness or weakness in the extremities associated with intense nausea and a tendency to fall backward or to the side of the lesion; consciousness may be impaired but never lost; objects may seem to swim or intermingle indiscriminately in front of the patient, and he may feel that if not supported he would fall in any direction or collapse. They place no localizing value on this form of vertigo. To this view I can subscribe.

Sometimes, however, these indefinite feelings of giddiness have the greatest localizing value because they may be present only when the head or eyes are deviated in a

3. University of Pennsylvania Medical Bulletin, May, 1904.

4. Brain, 1904.

certain direction. In a case of cerebellar tumor not recorded by the writer, the patient would experience no discomfort when lying flat on her back in the median line, but the moment the head was turned to the right she would experience a sense of dizziness which it was difficult for her to describe, and which would attain its greatest intensity when the head was extremely deviated, becoming less as the head reapproached the median line, ceasing, then, entirely. Deviation of the head to the left would cause no discomfort. A similar case was reported by Osborne.[5] Here a large glioma was found situated in the right cerebellar lobe, and the vertigo was apparent when the patient turned her head to the left. Evidently the dizziness was probably due to pressure exerted on the vermis.

Again, this indefinite sense of vertigo may only be apparent when the eyes alone are deviated toward the direction of the lesion, and in such instances would be of the utmost localizing value, as in Case 3, in which the patient experienced a sense of dizziness the moment he turned his eyes to the left, whereas turning his head to the left, with his eyes in the median line would cause no discomfort. Turning the head and eyes toegther, however, would also bring on the dizziness. It is probable that the cerebellum was directly involved.

In discussing this matter with Dr. G. E. de Schweinitz, the latter was of the opinion that dizziness sometimes is present in paralysis of some of the ocular muscles, but that this would be of small degree. This is a rather important point and should be remembered when such palsies are present.

It is probable that vertigo, no matter how described, is the result of a lesion in some part of the vestibular nerve or apparatus, either because of direct involvement of this nerve or its continuation in the medulla and cerebellum proper. Definite proof of this is lacking, but there is no question that involvement of the vestibular apparatus will cause vertigo and disturbances of equilibration and also disturbance in the sense of rotation, as in Case 3. When the patient was placed on a revolving stool and rotated toward the left, he was not aware of the position in which he was turned.

If an individual is placed, as has been done by Raymond,[6] on a small platform suspended a little above the floor, and which turns on a central axis, a normal person can recognize that the platform is being turned and can tell the direction, and if after several revolutions the platform is arrested he will feel as if the platform was still turning but in an opposite direction to the first revolution. Besides, the eyes will, at first, be directed to the side toward which the rotation takes place, and will regain their normal position by slow recession toward the median line, interrupted by forcible nystagmoid jerkings toward that side. In a lesion of the vestibule, the individual is liable not to perceive the motion of the revolving platform, or it may seem to him that the floor is sinking away from under him, and also there will not be as complete deviation of the eyes toward that side.

Choked disc or optic neuritis, as a rule, comes on earlier in cerebellar lesions than in cranial lesions elsewhere, and may be more marked on the side of the lesion. It is usually greater than four diopters. In one unrecorded case, already referred to, the choked disc was as high as eleven diopters. Sometimes, as in Case 3, choked disc may be entirely absent. Here, however, there was a cyst found and removed at operation, and there were present none of the other symptoms of intracranial pressure.

The condition of the pupils and their reflexes are of no aid in the diagnosis of cerebellar tumors, inasmuch as they are dependent on the state of the optic nerves.

Excluding the symptoms resulting from direct involvement of the cerebellum, it is on the implication of the cranial nerves situated in the cerebello-pontile angle that a diagnosis of a lesion in this area is made. We have already discussed the involvement of the fifth, seventh and eighth cranial nerves. The sixth nerve, because of its long course at the base of the brain is one of the earliest to be diseased from a tumor in any portion of the brain, and because of this, paralysis of the external rectus alone, unless associated with paralysis of the seventh and eighth nerves on the same side, is not of much diagnostic value. Bilateral external rectus palsy only rarely occurs in tumors of the cerebello-pontile angle, and, as a rule, is indicative of a middle cerebellar lesion, as in Case 5, in which, besides the cerebellar symptoms, there was present bilateral external rectus palsy with paralysis of the left seventh nerve. Here the paralyses of the left sixth and seventh nerves were due to direct involvement by the tumor, which grew in the fourth ventricle and into the cerebello-pontile angle. In this case, the symptoms were indicative of a lesion in the vermis, but because of the paralysis of the left sixth and seventh nerves it was thought that the tumor was probably situated in the angle and involved a considerable portion of the cerebellar substance.

Unilateral paralysis of the ninth, tenth, eleventh and twelfth nerves sometimes results from a tumor in the cerebello-pontile angle because of pressure, causing difficulty in eating, talking and swallowing, and rarely may also involve some of these nerves on the other side. When this is so tumors growing from the dura covering the petrous portion of the temporal and occipital bones should also be considered.

It is not the purpose of this paper to discuss extensively the symptoms of lesions of the cerebellum and the writer will limit himself in discussing only those symptoms which are pertinent to lesions of the cerebello-pontile angle. Only recently Hughlings Jackson[7] reaffirmed his belief that, just as in the cerebrum, all parts of the body are also represented in the cerebellum, and that there is a constant communication between the cerebrum, cerebellum and the spinal cord, and that if one is put out of gear the functional energy of the related parts must assert itself. He believes that the cerebellum is the center for continuous or tonic movements and the cerebrum for changing or clonic movements. Dr. Jackson also believes that the ataxia which is present in cerebellar disease is due to interference with the afferent impulses, believing, with Edinger, that the cortex cerebelli is an afferent recipient organ, and that the impressions from the trunk and limbs, which it receives by the related spinal tracts from the spinal cord are already coordinated.

Whatever symptoms are produced by lesions of the cerebellum or by those lesions which invade the cerebellum by pressure are dependent on a disturbance of coordination. This is apparent in any or every movement, whether it be in the gait, station, movement of a limb or limbs, of the eyes or of those muscles which are concerned in eating, talking and swallowing.

5. Journal of Nervous and Mental Diseases, vol. xxix, October, 1902.

6. Bull. de l'Acad. de méd., Paris, lxxi, Nos. 11-13, pp. 367-416.

7. Brain, No. 116, vol. xxix, 1906.

Besides, experimental observation has repeatedly shown that lesion of the cerebellum will produce weakness in the muscles of the limbs and trunk and loss of tone or atony in these parts. There is no question that this also occurs in the human being. In Case 5, for instance, in which a tumor of the fourth ventricle invaded the middle vermis, there was such marked weakness that the patient toward the latter end of the disease was unable to get out of bed. In another unrecorded cerebellar case, already referred to, there was marked weakness in the lower limbs with complete loss of tone. In lesions of the lateral lobe of the cerebellum this weakness or loss of tone may be greater or it may be limited to the side of the lesion. In cerebello-pontile tumors paresis of the homolateral side may rarely be present, this depending on the extent of the involvement of the lateral lobe of the cerebellum. In the cases here recorded it was not found, excepting in Case 2, in which, after the operation, there was marked weakness and loss of tone in the limbs on the same side, this resulting from direct injury of the cerebellum.

The ataxia found in cerebellar disease is usually supposed to be as marked at the beginning as in the completion of the movement and uninfluenced by the closing of the eyes. While the former may be true in acute cerebellar lesions, in chronic cases, especially in cerebello-pontile tumors, the tremor becomes much worse with the eyes shut, and may be of the type known as intention tremor, common in multiple sclerosis. This was true in Cases 1, 2 and 3. Stewart and Holmes believe that the intention type of tremor may be present in chronic cases, and especially where there is a complicating internal hydrocephalus, and that this is especially so in tumors involving the vermis, but they make no mention of the fact that the ataxia is made worse with the eyes shut. Mills[1] has already called attention to this. In fact, in some cases the incoordination, not only of the limbs but of the gait and station, is made so much worse when the eyes are closed that at first the diagnosis of tabes is suggested. Sometimes in lesions of one cerebellar lobe there may be a slight ataxia in the limbs of the opposing side. This, however, is not marked, and will not be as persistent as in the homolateral limbs. The ataxia is equally marked in the upper and lower limbs, if anything more in the upper.

Incoordination is present not only when a whole limb but also when a part of a limb is moved, as in supination and pronation of the forearm or flexion and extension of the forearm on the arm, or in movements of the lower limbs. This is known as Bakinski's diadococcinesia. It was only found in two of my cases.

Sometimes a tremor is noticed in the limbs in cerebellar disease, as in Case 5, in which whenever the patient attempted to move there was violent tremor. It is probable, however, that this is not a special symptom but only an effort at coordination, or rather a symptom of incoordination. Stewart and Holmes have noticed that in unilateral cerebellar tumors, which are not complicated by hydrocephalus, the homolateral arm is held remarkably steady when extended horizontally in front of the patient. This absence of any tremor, vibratory contractions or spasms, and the ability to maintain one position for considerable periods they hold as striking in a limb whose volitional movements are incoordinate and emphasizes the purely kinetic character of the ataxia. The contralateral arm may be unsteady or tremulous when held in the same position, but not, as a rule, to an unnatural degree. In extracerebellar tumors, on the other hand, there is often a regular tremor in the horizontally extended arms, as a rule, equally well marked in the limbs of either side.

The typical gait in cerebellar disease is that described as drunken and reeling. The patient, when walking, suddenly gives way to one side and in my experience to the side of the lesion. Sometimes, as in Case 3, the patient, being aware of his tendency to walk to the side of the lesion, in an effort to correct himself, will walk to the opposite side, swinging this side of the body to the healthy side. Here also, as in the ataxia in all of the cases of cerebello-pontile tumor, the gait was made much worse when the eyes were shut.

The station in cerebellar disease depends on the location of the tumor and will be influenced by the presence of paresis and atony. If a tumor involves the middle lobe or the vermis, incoordination may be so marked that the patient may be even unable to sit up. This has usually been ascribed to the weakness of the muscles of the back and trunk. In extracerebellar lesions the patient, as a rule, will stand with his feet wide apart, and hold himself carefully and may have a tendency, either with the eyes open or shut, to fall to the side of the lesion and sometimes forward or backward.

The attitude of the head will often be characteristic in tumors of the cerebellum; the patient, as a rule, holding his head in such a position as to give him the most comfort, as very often a change in position may cause an increase in the vertigo. If a patient, for instance, has a tumor on the right side he may deviate the back of his head to the corresponding shoulder, the chin being directed to the healthy side. At times this attitude is assumed not because of a possible increase of vertigo if the head is moved, but because in certain positions the patient will avoid seeing double, as in Case 1, in which the patient persistently held her head in a certain direction, resembling markedly the so-called cerebellar attitude. Sometimes in lesions of the middle lobe of the vermis there will be marked retraction of the head and neck with flexion of the upper limbs and extension of the lower, the so-called cerebellar attitude, first described by Hughlings Jackson.

Incoordination of the eyeballs, or nystagmus, in one of the most constant symptoms of cerebellar disease and seems to be present whenever this organ is involved. Only recently Sir Victor Horsley[8] advanced the opinion that in the intrinsic nuclei of the cerebellum the movements of the eyes and head are represented, while in the so-called paracerebellar nuclei, in which are included Deiter's nucleus, the vestibular nucleus and the nucleus magno-cellularis substantiæ reticularis, are represented the movements of the trunk and limbs especially. That being the case lesions of the intrinsic nuclei should cause a greater amount of nystagmus, and this seems to be borne out by clinical investigation. The nystagmus which is present in cerebellar disease is of two kinds; one, that which consists in a constant movement, as in the case of cerebellar agenesis now in the nervous wards of the Philadelphia General Hospital and at one time reported by Dr. Spiller, in which the eyes are constantly in motion, moving from side to side, and, in fact, in all directions, this being to all purposes a constant ataxia of the eyeballs; and the other, the nystagmus which is only apparent when the eyeballs are moved. If the tumor involves all of the intrinsic nuclei of the cerebellum, the nystagmus will be equally marked in all directions, but if the lesion involves only the nuclei of one side, the

8. Brain, No. 116, vol. xxix, 1906.

nystagmus, while it will be apparent when the eyeballs are deviated in any direction will be more marked when looking to the side of the lesion. This nystagmus consists in lateral deviation of to and fro jerking movements, while if the eyes are directed upward and downward to the side of the lesion they will be inclined to be also rotary, the eyeball on the side of the lesion moving always more forcibly. In convergence, as in Case 3, the inward movement of the eyeball will sometimes be performed jerkily and not in coordination with the movement of the other. In this case also, when the patient was asked to look to the side opposite the lesion, associated movements were quickly and promptly performed, but when he was told to look to the side of the lesion there was an appreciative interval between the command and the performance of the movement. In such cases, when the eyes are at rest, they may have a tendency to look to the side opposite the lesion.

Inasmuch as the cerebellum is the center for all voluntary movements it is only reasonable to suppose that it should be the coordinating center for eating, swallowing, laughing, crying and especially for talking. Definite proof of this, however, is lacking. As a rule, when there is difficulty in eating, talking and swallowing it is because of direct pressure exerted on the cranial nerves which are concerned with these functions. In a case at one time in the nervous wards of the Philadelphia General Hospital, in which it was supposed that the patient had a hemorrhage in the cerebellum, there was a most marked incoordination whenever he attempted to move a limb, and when he attempted to talk his speech was typically incoordinate. Unfortunately this case has passed out of our observation. For the present, the centers for laughing and crying have been placed in the thalamus. It must be remembered, however, that this part is in direct communication, by means of the cerebellar peduncles, with the cerebellum.

One of the commonest complications of both intra- and extracerebellar tumors is internal hydrocephalus, and because of this there will result, in most instances, a spastic condition of both upper, and especially of the lower limbs. Accompanying this there will be increased reflexes on both sides and a possible Babinski phenomenon, all of these symptoms indicating involvement of the pyramidal tracts. In Case 1, for instance, there was a marked internal hydrocephalus and microscopic examination showed a degeneration of both pyramidal tracts. The possibility of such complication must be remembered and its presence will influence considerably the gait and station in cerebellar disease. Sometimes bilateral internal hydrocephalus alone may produce the symptoms of tumor in the posterior cranial fossa, and there may be present all the symptoms of intracranial pressure, with the addition of incoordination and bilateral external rectus palsy. In such cases it is difficult to differentiate from a true cerebellar lesion, but, as a rule, there will not be as marked incoordination and there will always be a more or less spastic condition in the limbs.

SUMMARY OF CASES.

CASE 1.—A woman of 44, with history of two miscarriages, began with a convulsion of the right side of the body, this being followed by a right hemiparesis, headache, no nausea or vomiting, but increasing dizziness. She soon began to stagger, more to the left. Eyesight began to fail, this being followed by paralysis of the left external rectus. Later, she began to have increasing deafness in the left ear, with peculiar sounds, such as "blowing of steam," and the "singing of crickets," and difficulty in talking, eating and dribbling of saliva. Examination showed unequal pupils, the left being larger than the right, the reactions to light and movement being at first normal and later diminished. Nystagmus was present when the eyeballs were deviated upward. There was also a double optic neuritis, more marked on the left side, and later optic atrophy. The head was deviated to the left, the occiput being directed to the left shoulder and downward. Examination showed a deafness of the left eighth nerve, paralysis of the right soft palate and weakness of the right vocal cords, paralysis of the left sixth nerve, and variable weakness of the left seventh, first in the lower and then in the total distribution, and, lastly, in the lower only.

There was present a right hemiparesis with spasticity. The reflexes were increased on both sides, more on the right, but the Babinski reflex was present on both sides. Sensation was normal for all forms all over the body. The station was unsteady, both with the eyes open and closed, the gait was ataxic, and there was a tendency to stagger to the left and backward. The ataxia in the left upper and lower limbs was very marked, there being hardly any in the right limbs. Both the ataxia and the gait were made much worse when the eyes were closed. There was never any disturbance of the sense of position in the limbs. Toward the latter end of the disease, the patient became very stupid and it was impossible to understand her, speech being so difficult. Any movement of the left upper and lower limbs produced a coarse tremor.

At necropsy a tumor was found (Fig. 1) growing from the petrous portion of the left temporal and occipital bones and compressing the left cerebellum, medulla, pons and crus. Microscopically it was a sarcoma.

CASE 2.—A man, about 20 years of age, with an excellent history, began to have some headache. This was followed by diminution of vision, the appearance of black spots, later by white spots, then light flashes; this terminating in loss of vision and bilateral choked discs, more marked on the left side. About six months after the appearance of the headache, he began to be weak, incoordinate, and would stagger to either side or backward, and began to have loss of memory, vomiting and vertigo. About one year after the beginning of these symptoms, which became progressively more marked, he had, in addition, convulsions. These were Jacksonian in character, appeared daily, and were limited entirely to the distribution of the right seventh nerve. The patient had no aura and was not unconscious.

Examination showed gait and station to be unsteady. He would stagger from side to side or backward, and this was made worse with the eyes closed. The pupils were unequal, and the responses to light and movement were slow. The sensory portion of the right fifth nerve was distinctly involved, with a less impairment of the motor part. The right sixth and seventh nerves were paretic, and hearing was disturbed on this side. On the left side, the sixth nerve was weak, and the eighth nerve was more involved than on the other side. There was some difficulty in speech, it being thick and somewhat indistinct, and there was present a constant tremor in the facial muscles, as well as in the lips and tongue. There was no apparent weakness in any of the limbs, but the reflexes were generally increased, more on the left side. The tonicity was normal, but the movements in the left upper and lower limbs were not synergic. A distinct ataxia was present in the limbs of the left side, this being made worse with the eyes shut and resembling strongly, coarse intention tremors. At no time were there any so-called cerebellar seizures. There was no deviation of the head. Sensation was normal.

A diagnosis was made of a tumor, probably involving, principally, the right seventh nerve, also the right fifth and sixth nerves, and pressing on the cerebellum on the opposite side. An exploratory operation was performed in the right cerebellopontile angle but nothing was found. It is probable, that a tumor grew from the right petrous portion of the temporal and from the right and left occipital bones, first involving the cranial nerves on the right, and that the left cerebellar and cranial nerve symptoms were due to similar involvement in the left.

CASE 3.—A young man, 37 years old, began first to stagger in the dark and with his eyes shut, to the left. This became

steadily worse. At the same time he noticed that whenever he looked suddenly to the left, objects on that side would have a tendency to swim or gather together, and he felt a little dizzy. Slow deviation of the eyes head did not produce this, but sudden deviation did. Nausea and vomiting were never present, and headache did not become apparent until about five months after the onset, and then it was present over the left side of the occiput and made worse when the head was deviated upward. Soon after the onset, he noticed a slight deafness in the left ear, with some roaring and buzzing on this side. This deafness finally became complete. Sight was at no time involved, and choked disc was never present.

Examination six months after the onset showed the gait to be unsteady, the patient having a tendency to walk to the

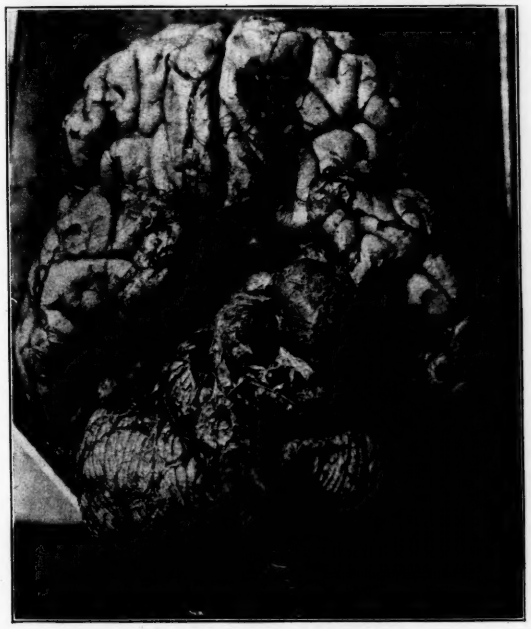

Fig. 1.—Case 1. Sarcoma growing from the left temporal bone, invading the left cerebello-pontile angle, giving symptoms difficult to differentiate from those of cerebral syphilis.

left and sometimes staggering to this side and backward. Because of the tendency to walk to the left, the patient when walking, would turn the axis of the body to the right, with the left shoulder and body forward. When standing, his feet were wide apart, and both the gait and station were made worse with the eyes shut. The pupils and their reactions were normal, but a marked nystagmic jerking was present when looking to the left or up to or down to the left. In the latter two conditions, the movements of the eyeballs were inclined to be rotatory. Some jerkings were present when looking to the right but these were not marked. Convergence with the left eye was not well performed. Associated ocular movements were well performed to the right, but an appreciable lapse of time was noticeable between the command and the performance of the movement to the left. The left sixth nerve was paretic, and dizziness was present when the eyeballs were directed to the left, the objects in the left field of vision swimming together. The left seventh nerve was weak, especially in the lower distribution, and fine tremors were present. There was total nerve deafness of the left eighth nerve. Power in the limbs was normal, but the movements of the left upper and lower limbs were ataxic, the ataxia resembling that seen in multiple sclerosis and was made worse with the eyes shut. The tonicity was normal and equal on both sides, but the movements of the left limbs soon became incoordinate and asynergic. The reflexes were prompt everywhere and about equally so. Sensation for all forms was normal. There were no compensatory attitudes or tremors in the limbs, and difference in the position of the head did not cause dizziness. When the patient was revolved to the left, on a stool, he was not aware of the direction, when his eyes were closed. An abnormal appetite was present, and digestion as shown by the test meal was quick.

An operation was performed on the left cerebello-pontile angle by Dr. Charles H. Frazier, and a cyst was punctured and the contents removed. The angle was exposed and no other lesions were evident. Since then, the incoordinate gait, the ataxia, the vertigo and the pains have disappeared, leaving only a slight weakness of the left sixth and seventh nerves and a gradual improvement in the deafness on this side. There still remains a slight nystagmus when looking to the left.

CASE 4.—A girl, of 14, with a history of chorea, developed an abscess in the left ear. Soon after she had occipital headache, dizziness, nausea and vomiting of a projectile character. Vision became poor, and choked disc developed in both eyes, more marked in the left. The gait became shuffling, incoordinate, and she would stagger more to the left. Examination showed the pupils to be of equal size, but the reactions to light and movement were slow. The left external rectus and the seventh nerve were paretic. Deafness was marked in the left ear. The head and back were rigid, and there was considerable pain on pressure and movement. The reflexes were generally increased, and about equally so. Sensation for all forms was normal. Ataxia was marked in both upper and lower limbs. With the history of a left middle ear disease, the rigidity of the back and neck, increase in reflexes, the slow reactions of the pupils and the presence of choked disc, the cerebellar gait, the incoordination of the upper and lower limbs, and the involvement of the left sixth, seventh and eighth nerves, a diagnosis was made of purulent meningitis following the left middle ear disease, with an abscess, probably of the pia, in the left cerebello-pontile angle. The autopsy with microscopic examination confirmed this. (Fig. 2).

CASE 5.—A woman, of 34, with no previous history, began to have diminution of vision with headache, which was mostly occipital and temporal. Very soon sight became almost completely lost, and marked choked discs were demonstrated in both eyes. The left external rectus was first paralyzed to be followed later on by the right. The pupils and their reactions were normal, and there were occasional nystagmic movements of the eyeballs. The left seventh nerve was paralyzed in its whole distribution. Station and gait were incoordinate. All

Fig. 2.—Case 4. Abscess of the pia in the left cerebello-pontile angle, secondary to middle ear disease, the symptoms resembling those of tumor in the cerebello-pontile angle.

of the limbs were ataxic, and a marked tremor was present, this being especially marked in the right side and in the upper limb. All the reflexes were increased. The Babinski reflex was not present and the lower limbs were spastic. For some time before her death she was unable to get out of bed because of weakness and a tremor of her limbs.

A tumor was found filling up all the fourth ventricle, the posterior portion of the aqueduct of Sylvius and compressing the inferior vermis and the nuclei emboliformis, globosus and fastigii and to a less extent the dentate nuclei. The former grew from the chorioid plexus. A part of this tumor process

grew outward into the left cerebello-pontile angle and compressed directly the left sixth and seventh nerves.

DISCUSSION

ON PAPERS OF DRS. WEISENBURG, SPILLER, ATLEE AND MILLS, THOMAS AND CUSHING.*

DR. ALBERT E. STERNE, Indianapolis, Ind., spoke, first, of the uncertainty as to the condition which is found on opening the skull. Everybody, he said, who deals with cerebral operations, in spite of the most careful diagnosis he has made, has often been struck by the fact that the degree of trouble existing beneath the cranium was often extensive when he did not expect much, and where he really expected a considerable lesion to be present, comparatively little or no trouble was apparent. The absence of general symptoms, even of headache, is remarkable sometimes, and this absence sometimes exists even with very large tumors. He has operated in a very large number of these cases. In one case the tumor was of a tremendous size, as large as two fists, part outside of the head, and part inside. There was absolutely no pain, and never had been any. In several cases of large frontal tumors there was no evidence of headache, except occasionally, late in the disease. Second, in regard to the reflexes: There, again, he said, are the manifestations simply out of all proportion to the actual lesion. He has seen cases of tumors in which one would expect to find the reflexes considerably heightened, and yet they were not heightened at all. In one case they were abolished. In this case, which terminated fatally, there was no evidence of any change in the spinal cord. Another point Dr. Sterne mentioned was in regard to optic neuritis and papillitis, which is more common in tumors, and even small tumors of the posterior fossa, than any other division of the cranium. Even large tumors of the frontal portion sometimes exist without this neuritis. When these symptoms are present, there is possibility of their being more marked on the same side as the tumor. The papillitis is sometimes more marked on the side opposite the tumor. This, however, is the exception and not the rule. Everything else being equal, Dr. Sterne said that the side which shows the papillitis is the side to be preferred in the operation. In regard to ataxia, he has made observations several times recently in cases of cerebellar tumor located at the pontile angle, where there was ataxia on both sides, but more on the opposite side than on the side of the lesion. He finds tumors of the cerebello-pontile angle are particularly interesting, because signs of involvement of certain cranial nerves are apt to be shown, in addition to the general symptoms. Tumors of this sort are unlikely to be accompanied by spasms, either of the general kind, or of the Jacksonian type. The fact that these patients usually show difficulty in speech, which Dr. Weisenburg mentioned, Dr. Sterne has noticed time and time again. He has come to the conclusion that we are dealing with an incoordination, as in the ataxic, or that pressure has something to do with the fact. In two cases, where he diagnosed tumors of the cerebello-pontile angle, the tumors originated behind the odontoid process, extending through the foramen magnum to the angle. In one of these cases, during the operation, he was able to amputate the tumor, which was a fibroma about the size of an apple.

DR. T. H. WEISENBURG, Philadelphia, said that Dr. Dercum evidently misunderstood his remarks, for, for some time, he has believed that the difficulty in speech and in eating and in swallowing, which are very often found in cerebellar lesions, are no more than evidences of incoordination in the functions concerned, and are due to a disturbance of these centers in the cerebellum. To have such a disturbance, however, it is necessary that the middle lobe or the vermis of the cerebellum should be involved. Our knowledge of these tumors is by no means definite, and it is impossible sometimes to differentiate them from other growths. For some time Dr. Weisenburg has been examining specimens of gliomatous tumors, but it has been impossible for him to arrive at any definite conclusions as to their nature because of their variance. Some contain a few glia cells, while others have these in abundance, and in still others glia cells are not to be found. It is a question whether an operation will have any influence on further growth of gliomatous tumors. At any rate, there is no evidence to show that such is the case.

DR. WM. G. SPILLER, Philadelphia, questioned whether a tumor will ever entirely disappear and leave a cyst, although it is well known that a glioma may undergo partial cystic degeneration. He has seen two cases in which convulsions confined to one side of the face were caused by intracranial irritation of the facial nerve. A point in differential diagnosis between spasms of this character and those resulting from cortical irritation, he said, is that in the latter the upper part of the face on both sides is likely to be implicated in the spasms.

In a case in which an operation was performed recently by Dr. Frazier an intracranial clot formed after the operation, and caused frequent convulsions. The dura was opened without an anesthetic, and apparently without great pain.

DR. CHARLES K. MILLS, Philadelphia, said that the case referred to by Dr. Weisenburg was a very typical one, the spasm beginning in the face and extending to the other parts of the body. With regard to the position of the tumor, although very commonly on the same side, it is probable the occurrence of symptoms referred to the opposite side may be due to pressure. Just as there are cerebellar symptoms from pressure in the frontal region, so, of course, there might be cerebellar symptoms referrable to one side from the pressure of a tumor on the opposite side. With regard to Dr. Thomas and Dr. Cushing's paper, Dr. Mills said that his impression has always been that the dura was a very sensitive structure. Dr. Thomas or Dr. Cushing said that there was no pain caused by its incision. It will become desirable, therefore, to do many intracranial operations in two stages, if these can be done without a general anesthetic. It has occurred to Dr. Mills that some form of local anesthetic, like cocain, might be applied to the dura. It is generally admitted that the cerebral substance is not sensitive.

DR. H. M. THOMAS, Baltimore, Md., said that six weeks after the operation the patient has recovered almost complete use of the left arm and has no demonstrable anesthesia. He has not had a single convulsion.

* The paper of Dr. Spiller appeared in THE JOURNAL, Dec. 21, 1907, p. 2059; that of Drs. Atlee and Mills appeared Dec. 28, 1907, p. 2129; that of Drs. Thomas and Cushing appeared March 14, 1908, p. 847.

GENERAL ANESTHESIA.

ORVAL J. CUNNINGHAM, M.D.
KANSAS CITY, MO.

The standard methods of inducing general anesthesia leave much to be desired from the standpoint of efficiency, safety and freedom from unpleasant or dangerous after-effects. In an endeavor to overcome these defects, I have devised an apparatus for the administration of nitrous oxid and oxygen with the ether sequence, which embodies a number of principles not found in methods used heretofore. During the last year this method has been tried thoroughly (1,126 cases), and its superiority over others, in the vast majority of cases, seems to be proved both experimentally and practically. Any combination of nitrous oxid, oxygen, air and ether vapor is obtained, and in any proportion by definite percentages, and the change from one to the other is made slowly, if necessary—a most important consideration in mixed anesthesia.

NITROUS OXID.

Nitrous oxid is safe, quick in action, certain, and very seldom leaves any unpleasant after-effects. Its contra-indications are few, chiefly those cases in which there is an obstruction of the air passages. But anesthesia by the administration of pure nitrous oxid is objectionable, (1) because of its necessarily short duration due to troubles arising from asphyxiation, as cyanosis, irregu-

lar, stertorous respiration, and (3) clonic spasms. However, the cyanosis of nitrous oxid, although undesirable, is very different, physiologically, from the cyanosis produced by chloroform and ether. The cyanosis resulting from the administration of nitrous oxid with deficient oxygen is due to a lack of opportunity for the blood to absorb the normal amount of oxygen, and not to an abnormal condition of the circulatory or nervous systems. It comes quickly and disappears quickly, when air or oxygen is added, and is no more dangerous than the cyanosis which accompanies a paroxysm of pertussis. Unless caused by voluntary or mechanical interference of the respiration, the cyanosis of chloroform or ether is that of capillary stasis. It comes on slowly, is preceded by a marked interval of ashy pallor, disappears slowly, and is indicative of a loss of vasomotor tonicity or impaired heart action, a most alarming condition.

Nitrous oxid is a true anesthetic (not dependent on anoxemia for its anesthetic properties) mainly for the following reasons: (1) Anesthesia can be induced by the inhalations of any inert gas, such as nitrogen or hydrogen, when pure or with a sufficiently low percentage of oxygen, but this is anesthesia by anoxemia and is slower in its effect than nitrous oxid under the same conditions, and the resulting anesthesia is of shorter duration (Hewitt). (2) Anesthesia can be induced by using the normal 20 per cent. oxygen with the nitrous oxid (Siklikovich, Zweifel, Hillischer), which can not be done with inert gases. (3) In the administration of nitrous oxid, there is a slight and transient, but appreciable sensation of exhiliration, which corresponds to the stage of excitement of all true anesthetic agents. This is not true of inert gases, as nitrogen or hydrogen, but often is quite the opposite—a feeling of depression, malaise and impending suffocation (Turnbull).

NITROUS OXID AND OXYGEN.

If oxygen is given with the nitrous oxid, in amounts varying from 5 to 15 per cent., according to the type and condition of the patient, we obtain a quick, quiet and complete anesthesia, which is entirely free from the objectionable symptoms of pure nitrous oxid anesthesia, and one which can be continued indefinitely. This is a most excellent anesthetic for a considerable portion of major work. I have used it continuously for over one hour, and have never encountered any undesirable effects from its use. As far as I have been able to learn, a death has never been reported from the use of nitrous oxid and oxygen. Animals have been kept completely anesthetized with this combination for three days, without apparent injurv (Martin). The objections to the use of nitrous oxid and oxygen in extensive surgical work is the expense (three to five dollars an hour) of maintaining it through a long operation. Then, too, with some types of individuals, complete muscular relaxation can not be depended on.

A practical working zone of percentages of oxygen with nitrous oxid exists in each case. As an example: A certain patient may do well with 8, 9 or 10 per cent. of oxygen, but if only 7 per cent. is given, the patient will soon show marked cyanosis and the other symptoms of asphyxia; or if 11 per cent. is given, excitement, struggling and light narcosis will follow.

Air can not be used successfully instead of oxygen, because if the necessary amount of air is used to supply the oxygen, the nitrous oxid will be too dilute to produce complete narcosis. As an example: Suppose that 10 per cent. oxygen is the lowest percentage we can use in a given case to prolong the anesthesia and prevent the untoward effects of the nitrous oxid, and we use air to supply the oxygen. As 79 per cent. (approximately) of the air is nitrogen, and 20 per cent. (approximately) oxygen, and we obtained 10 per cent. of oxygen in the mixture, then 50 per cent. of the inhalation must be air. This would permit of only 50 per cent. being nitrous oxid, which is at least 20 per cent. less than is necessary to produce narcosis (Kemp, Paul Bert, Martin, Zuntz, Kliowitsch, Goldstein, Van Arsdale). And, conversely, suppose we use 70 per cent. nitrous oxid, the lowest percentage with which it is possible to produce narcosis, this would permit of only 30 per cent. air or 6 per cent. oxygen, which is 4 per cent. less than is necessary, in the given case, to prolong the anesthesia. Therefore, the result with air and nitrous oxid is either a failure to

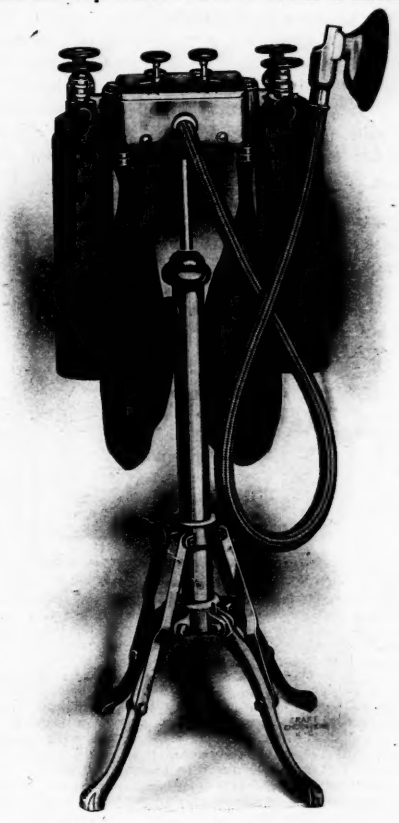

Fig. 1.—Apparatus ready for use.

maintain narcosis, or extreme anoxemia, with its accompanying symptoms. Practically, I have found nitrous oxid and air far inferior to nitrous oxid and oxygen for prolonged surgical work.

A point of safety and convenience with my apparatus is that, if necessary, oxygen can instantly be given pure or mixed at any time during anesthesia or afterward to bring about a quick resuscitation. A few breaths of oxygen will completely relieve the occasional laryngeal spasm of incomplete anesthesia without decreasing the amount of ether being used, which can not be done with air. It is well known that the use of oxygen with ether is often of decided advantage in patients of feeble vitality, the tuberculous, the emphysematous, in alcoholics and the very florid. A better narcosis with more perfect

relaxation is obtained. "The hyperoxidation of the tissues enables more ether to enter the circulation than could otherwise occur without danger to the nerve centers hampered by deoxidized blood" (Buxton). This use of oxygen, however, is seldom necessary. The oxygen of the air is usually sufficient if there is no rebreathing which gives the patient the full benefit of it. In routine work, with my apparatus, oxygen is used only during the administration of the nitrous oxid, viz., the first three to five minutes of the anesthesia.

The reason for this use of oxygen when the ether sequence is used is explained in the paragraph under "after effects."

ETHER.

It is not within the scope of this paper to discuss the relative merits of ether and chloroform. In summarizing the answers to a circular letter sent to 100 American surgeons, regarding the choice of anesthetic, J. E. Lumbard says: "They show that there has come to be an almost universal consensus of opinion in favor of ether, except under very special circumstances."[1] It is generally agreed that for the great majority of cases ether is very much safer than chloroform, pulmonary

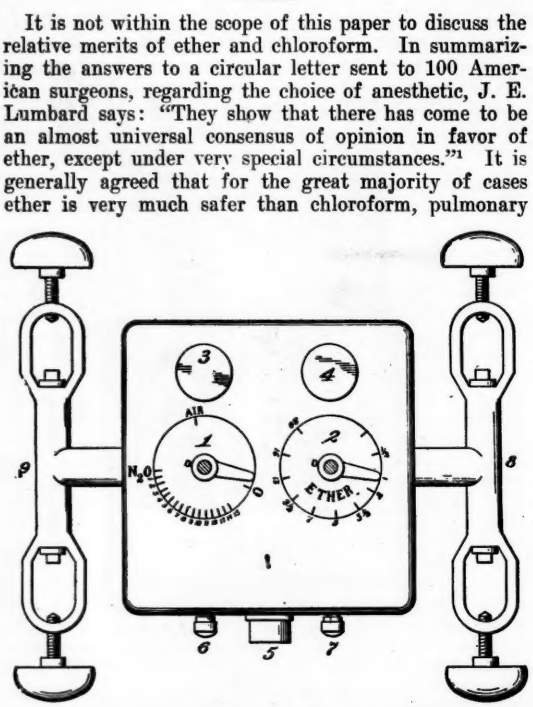

Fig. 2.—Top view of apparatus with knobs of valves removed. (1) Valve which controls supply of nitrous oxid, oxygen and air. The figures 1 to 15 between the nitrous oxid and oxygen marks indicate percentages of oxygen which may be used with the nitrous oxid. (2) Valve which controls ether vapor, with the percentages indicated. (3) Opening for water bath. (4) Opening for ether chamber. (5) Connection for tube leading to inhaler. (6) Opening for removal of water. (7) Opening for removal of ether. (8) Arm for attachment of oxygen cylinders. (9) Arm for attachment of nitrous oxid cylinders.

and nephritic complications on the whole no more probable, and the postoperative nausea and vomiting, while more frequent, is less severe. The induction period of ether, however, is longer, more disagreeable and accompanied by more excitement. The objectionable features of the induction period are overcome by preceding the ether with nitrous oxid. The after-effects are controlled by mixing oxygen with nitrous oxid. Statistics show that the nitrous oxid-ether sequence method is much safer than ether alone. This is probably due to the elimination of the stage of excitement. Most deaths from chloroform or ether occur in the earlier stages of anesthesia, and appear to be due to functional disturbances of reflex origin.

1. Med. Rec., Dec. 1, 1907.

AFTER EFFECTS.

Some investigation is needed to determine definitely the cause of the postoperative emesis. It may be of central origin. It seems more probable that it is peripheral and due principally to swallowing of ether-laden secretions. Saliva will take up large quantities of ether in solution. The fact that the length of the anesthesia seems to bear but little relation to the severity of the after effects would support this view, since swallowing occurs only soon after the beginning and the close of the anesthesia. The efficacy of stomach lavage immediately following anesthesia is of some value as evidence. Also anesthetists have long observed that, except in the case of alcoholics, patients who are much excited and who struggle during the induction period are far more liable to postoperative nausea and vomiting. The apparent cause of this is that with ordinary methods of inducing anesthesia the reflex of swallowing is practically always present early, is always excessive with struggling, may be excessive when struggling is absent, and always persists longer than the struggling, being one of the last of the reflexes to disappear before the stage of complete narcosis ensues. The gastric mucosa of alcoholics seems to have acquired a toleration for irritants of this kind.

With the Clover apparatus and its modifications, as the Hewitt, Bennett, Gwathmey, Pedersen and others, pure nitrous oxid is used with the ether sequence. The nitrous oxid is continued only one and one-half to two minutes because of the asphyxiation. This makes it necessary to overwhelm the patient with ether and to employ the additional help of the anoxemia obtained by the to and fro breathing into a rebreathing bag when the nitrous oxid is discontinued, and even then the patient will almost invariably "come out" enough to swallow about as much as if "gas" had not been given, and hence nausea and vomiting follow in about the usual percentage of cases.

This is how the oxygen is of the greatest value in the use of the apparatus here described: By mixing oxygen in the proper proportions with nitrous oxid complete narcosis can be maintained indefinitely and is used sufficiently long (three to five minutes, occasionally longer) to permit ether to be administered gradually and slowly until complete ether narcosis is established. Since the nitrous oxid and oxygen are continued until complete ether narcosis is established there is then no return of the reflexes when air is substituted, and consequently no swallowing of the ether-laden secretions. It is very rare, indeed, to find a case in which the proper use of the apparatus will not prevent swallowing, and patients rarely experience a marked degree of postoperative nausea and vomiting. This gradually increased and dilute administration of ether (which seldom exceeds 6 per cent.) also tends not to excite a hypersecretion of mucus.

MEASURED DOSAGE.

A characteristic feature of the apparatus is that the gases and the ether vapor are accurately measured under all conditions. This is done with such ease and simplicity as to make it eminently practicable. The same accuracy of judgment is used as if the dose were given by the mouth or hypodermically. This adds much to the safety of the patient and the convenience of the anesthetist. It is well known that an uneven administration predisposes to anesthetic shock. A measured dosage insures an absolutely even administration.

PULMONARY COMPLICATIONS FOLLOWING ANESTHESIA.

The embolic pulmonary processes which sometimes follow extensive operations in all probability occur independently of the anesthetic. It is doubtful if the refrigeration of anesthesia is ever an actual cause of pneumonia. It does, however, greatly reduce the body heat at a time when it is needed. The importance of preventing excessive refrigeration in anesthesia will be appreciated when it is recalled that the alveolar air surface is over one hundred times as great as the surface of the body. Precautions are usually taken that the operating room is 75 to 80 F., but a long-continued icy inhalation is ignored. Whatever heat is taken from the inspired air by the vaporization of the ether is, in turn, taken from the lungs, as the exhalation is always at practically body temperature, regardless of the temperature of the inhalation.

I constructed an inhaler for experimental purposes which completely excluded the exhalation and permitted the heat required to vaporize the ether to come entirely from the inspired air. I used it in thirty-one anesthesias. With the room at 80 F. 2.1 per cent, ether vapor produced an inhalation of 30 F., and 5.4 per cent.

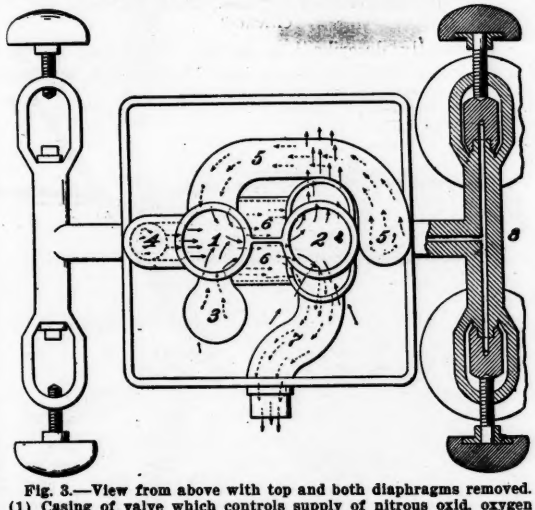

Fig. 3.—View from above with top and both diaphragms removed. (1) Casing of valve which controls supply of nitrous oxid, oxygen and air. (2) Casing of valve which controls supply of ether vapor. (3) Opening from below for air intake to Valve 1. (4) Passageway from nitrous oxid bag to Valve 1. (5) Passageway from oxygen bag to Valve 1. (6) Passageway from Valve 1 to Valve 2. (7) Passageway to tube leading to inhaler. (8) Sectional view of oxygen arm with cylinders attached.

ether vapor 9 F., thus causing a loss of about 21,000 calories of body heat for every ounce of ether used. With common methods this refrigeration is reduced only according to the amount of rebreathing employed, so with them it is, at best, a choice between two evils. By the use of the apparatus described in this paper the inhalation never falls more than 10 F. below the room temperature, even though 6 or 8 per cent. of ether vapor is used.

This elimination of refrigeration is accomplished by the combined employment of three methods: (1) The ether chamber is in a bath of 22 ounces of water, at about 90 F., a little below the boiling point of ether. (2) Ether and the corresponding refrigeration is saved by the quick induction of complete narcosis by nitrous oxid and oxygen instead of ether. (3) Only the inhalation passes over the ether and not both inhalation and exhalation, as is the usual custom. This in itself saves half the ether ordinarily used, which also reduces refrigeration. The danger of aspiration pneumonia is lessened by this method, because early vomiting never occurs and also less mucus is secreted.

It is always desirable to have an evenly diffused mixture of ether vapor and air. This is impossible when the ether is applied directly over the face. These irritating "ether streaks" must have an influence in the production of bronchitis and pneumonia. They are also often the cause of coughing or "holding the breath" before complete narcosis is established. The ether vapor is thoroughly mixed with the air in its passage through the apparatus and the three or four feet of tube connecting with the inhaler.

NO REBREATHING.

It is possible to produce complete narcosis in four to six minutes by simply rebreathing. Rebreathing has been the custom in etherization and to a less extent in the use of chloroform. It is for this purpose that stockinette or towels are used instead of a thin layer of gauze in the ether drop method. Many inhalers are provided with a rebreathing bag. The practice is convenient, but it carries with it its ill effects. The effects of the decreased oxygenation and the increased carbon dioxid is certainly undesirable, but we know that greater deleterious effects are due to other substances of expired

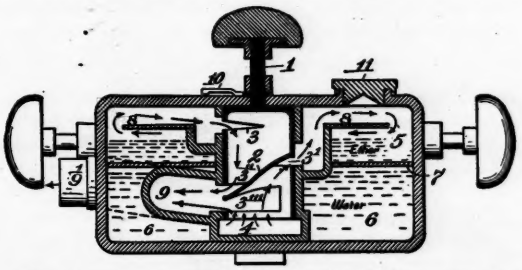

Fig. 4.—Sectional view of apparatus through ether valve from before backward. (1) Ether valve (solid black). The adjustment of the valve, as shown in the cut, permits one-half the inhalation to pass over the ether surface and one-half to pass directly to the inhaler. This position of the valve gives five per cent. ether vapor under "operating room conditions." (2) Spiral partition in ether valve. (3) 3', 3", 3"' openings in ether valve. (4) Passageway from nitrous oxid—oxygen—air valve to ether valve. (5) Ether chamber. (6) Water bath. (7) Diaphragm separating ether chamber and water bath. (8) Partial diaphragm to direct inhalation over ether surface. (9) 9' passageway to tube leading to inhaler. (10) Indicating hand of ether valve. (11) Tap for opening to ether chamber.

air. Rebreathing is practically impossible with the apparatus. The inhaler is barely large enough for the accommodation of the facial contour, so that every breath is a fresh one, the exhalation disposed of, and the normal oxygenation maintained.

THE APPARATUS.

The complete apparatus (exclusive of the gas cylinders) weighs twenty pounds. It can be assembled or taken apart quickly and is portable, fitting nicely in a case considerably smaller than an ordinary suit case (Fig. 1). Practically no gas is wasted and not one dram of ether is used that does not pass through the patient's lungs. The passageways are large enough to prevent any inconvenience in breathing. There is no gauze or sponge packing, the inhalation passes freely over liquid ether. The flaps of each respiratory valve of the inhaler are made of a round piece of dental rub-

ber dam—thin, pliable sheet rubber—secure in the center, with free edges. They are not affected by moisture or position, can not easily get out of order, may be renewed quickly, and the resistance they offer to respiration is imperceptible. With the "expiratory valve" it is easy to observe the exact condition of the respiration. The inhaler may be sterilized by boiling. The apparatus has no complicated mechanism, but is regulated entirely by two one-piece valves (Figs. 2, 3 and 4). A second cylinder of either "gas" or oxygen may be attached for use in case one becomes exhausted. Nitrous oxid cylinders are sold in twenty-five, fifty, one hundred and two hundred gallon sizes. The gas is in a liquid state. The one hundred gallon cylinder of nitrous oxid weighs about nine pounds. A cylinder of oxygen is about the same size and contains forty gallons of gas. These can be obtained from any surgical or dental supply house at a cost of $2.00 per cylinder, each of which will suffice for twelve to twenty anesthesias if the ether sequence is used. The expense is considerably less than the use of ether by ordinary methods. Of course considerable skill is necessary for the proper use of these refinements of anesthesia. However, the construction of the apparatus is such that practically the only accident a novice might encounter would be a failure to obtain a quick and uninterrupted surgical anesthesia.

Not only may the apparatus be used for prolonged anesthesia by nitrous oxid and oxygen or for nitrous oxid and oxygen with the ether sequence, but also for the administration of ether alone. The detail and technic of this is much simpler than that of any other method. If the "gas" and oxygen is omitted and ether alone used, the induction period and immediate after-effects are but little different from ether given by other methods. We still have, however, the advantages of the thorough mixture of air and ether vapor, the freedom from rebreathing, the decreased refrigeration and the even measured dosage.

The nitrous oxid, oxygen or the ether sequence use of the apparatus makes anesthetic work a pleasure, no struggling or vomiting, quick narcosis, no constant "dropping," the safety and convenience of knowing the percentages used, and practically no after-effects. It removes the art of anesthesia from the mysticism, fancies and uncertainties of empiricism and places it on an accurate and scientific basis.

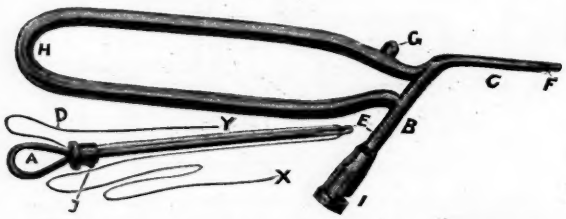

Fig. 1.—Author's compound needle. The needle consists of two parts, A is the straight, blunt-pointed ligature-carrying member with an eye at D and at E. BC is the angular, tapering-pointed, cannulated member, with an eye at its point F, and another, G, in its handle, H. X and Y are the respective ends of the ligature; I is a slot for receiving the pin, J, when locking the bayonet joint, IJ, in Figure 2.

Clinical Notes

IMPROVED TECHNIC FOR LIGATING THE APPENDIX WITHIN THE CECUM.

J. RAWSON PENNINGTON, M.D.
Professor of Rectal Diseases, Chicago Policlinic.
CHICAGO.

I recently described[1] a method of setting a snare within the cecum to catch and ligate the appendix

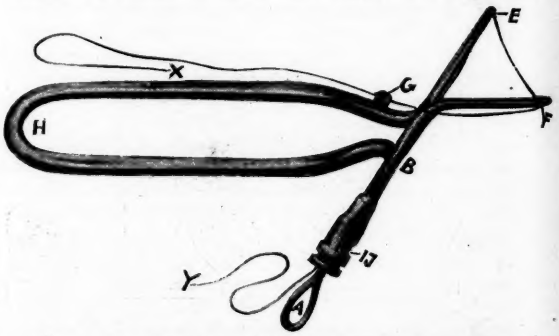

Fig. 2.—This shows the straight ligature-carrying member, A, passed through the cannulated portion, B, and locked at IJ. To thread the instrument the member A is first threaded, as in Figure 1, by passing the ligature through the eye D, and then through the eye E. This member is then carried part way through the cannulated member B, when the end X of the ligature is grasped and pulled through the cannulated member B, then passed through the eye F, and lastly through the eye G. This done, the member A and the ligature Y are withdrawn into the cannulated portion, B, far enough to become concealed. The instrument is then ready for inserting into the cecum as shown in Figure 3.

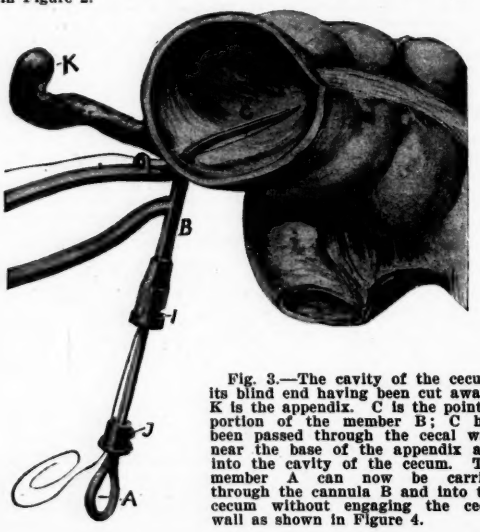

Fig. 3.—The cavity of the cecum, its blind end having been cut away; K is the appendix. C is the pointed portion of the member B; C has been passed through the cecal wall near the base of the appendix and into the cavity of the cecum. The member A can now be carried through the cannula B and into the cecum without engaging the cecal wall as shown in Figure 4.

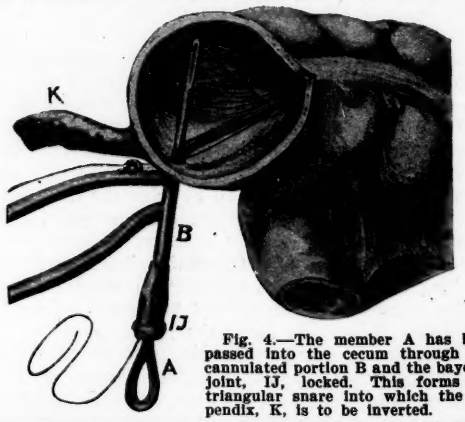

Fig. 4.—The member A has been passed into the cecum through the cannulated portion B and the bayonet joint, IJ, locked. This forms the triangular snare into which the appendix, K, is to be inverted.

1. THE JOURNAL A. M. A., Nov. 30, 1907.

therein. That method necessitated three needle punctures of the cecum. Dr. Paul Gronnerud, head of the department of operative surgery, Chicago Policlinic, said that the operation would be ideal if it could be accomplished with only one needle puncture. I have done this and the accompanying illustrations, with their legends, fully explain, without further comment, how this may be done; the procedure is exceedingly simple and easy.

The members, A and C, of the instrument and the needle puncture in Figure 8 have been magnified for the purpose of clearness.

Fig. 5.—This shows the inverted appendix, K, within the triangular snare.

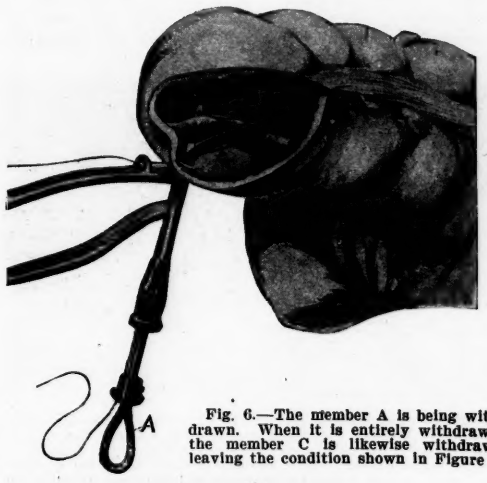

Fig. 6.—The member A is being withdrawn. When it is entirely withdrawn, the member C is likewise withdrawn leaving the condition shown in Figure 7.

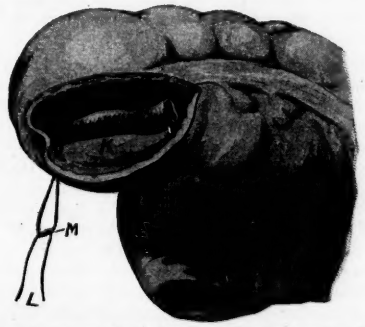

Fig. 7.—This shows the relation of the appendix, K, and the ligature, L, after the withdrawal of the needle, also the formation of the first loop, M, of the knot.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

REPORT OF AN EXCISION OF OVER ONE-HALF OF THE RIGHT LUNG.

W. WAYNE BABCOCK, M.D.
PHILADELPHIA.

In no region of the body does a deposit of tubercles invariably indicate surgical treatment. For the most part the treatment of localized miliary tuberculosis is non-operative. Most of the cases of Pott's disease, a large proportion of tubercular joints, many superficial types of tuberculosis, and many cases of tuberculosis of internal organs are best treated without recourse to the knife. In nearly every situation, however, there is a residuum of cases in which other measures fail, and in which operative intervention is desirable.

Heretofore a marked exception has been made in regard to pulmonary tuberculosis, and, in general, surgical treatment is here considered dangerous, unwarranted and harmful. If one compares the forms of surgical procedure that have been brought to bear against tuberculosis of the lungs with those operations used for tuberculosis of other organs, it becomes evident that the methods that have failed in pulmonary surgery are precisely the methods that have proven ineffective in treating tuberculosis elsewhere in the body.

The operations that have been used in the treatment of pulmonary tuberculosis comprise chiefly the incision and drainage of abscesses, caseous areas, tubercular or bronchiectatic cavities, or imperfect resections of portions of diseased tissue, especially at the apices of the lungs. These operations have been followed by drainage, permitting an added mixed infection and the invasion of the adjacent tissues of the chest wall by the tubercle bacillus.

The results have been almost uniformly bad, just as they have been after incision or incomplete excision with drainage for tuberculosis of the kidney, intestine or other organs. On the other hand, excellent results have been obtained by nephrectomy for tuberculosis of the kidney, and by thorough excision without drainage for tuberculosis of the intestines, testicles and other parts of the body. In cases in which the recognized forms of treatment prove effective against the smaller tuberculous areas, but impotent against associated massive lesions of the lungs, operative measures, bolder and more thorough than those heretofore used may, in selected cases, be

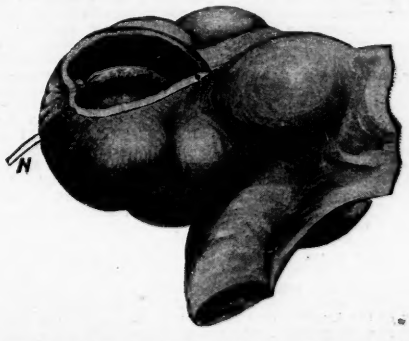

Fig. 8.—This shows that the appendix has been ligated and the knot sipped into the cecum. N is a mattress suture for closing the needle puncture.

warranted by the desperate plight of the patient.[1] Occasionally even a half-hearted pneumotomy is useful.

A few years ago a middle-aged colored man with a large putrid empyema was admitted to the Samaritan Hospital. After a drainage operation his cough and expectoration increased, the sputum contained large quantities of tubercle bacilli and, finally, signs of a pulmonary abscess developed. The opening of the chest was enlarged, and a drainage opening made through the caseous pulmonary tissue into the abscess. Cough and expectoration decreased, the man gained in weight and left decidedly improved, although not cured.

In the following case, while the outcome was disappointing, the feasibility of delivering one or more lobes of the lung through a posterior opening in the chest

Fig. 1.—Extirpated lobe of the lung showing massive caseous tuberculosis, thickening of visceral pleura and remnants of universal, very dense pleural adhesions. Weight 770 grams.

wall and the controlling of the blood vessels by ligatures applied directly to the hilum without recourse to the cautery was demonstrated. The entire right lung weighed 1,090 grams and 770 grams of pulmonary tissue were removed at the operation without alarming hemorrhage. The remaining 320 grams of the right lung became atelectatic, but the left lung proved adequate to maintain the respiratory function. The patient improved sufficiently to be out of bed; but pulmonary edema from exposure was fatal fourteen days after operation.

The case was one of advanced pulmonary tuberculosis, restrained by hygienic and dietetic treatment. There was massive caseation of the lower right lobe. The necropsy indicated the feasibility of the operation and of the removal of even the entire lung.

Mr. N., aged 20; tailor; single; family history obscure; previous health good. During the winter of 1907, he first became ill with increasing cough, dyspnea and evening fever. Three months later, having lost about 36 pounds, he applied to a medical dispensary where a diagnosis of advanced pulmonary tuberculosis was made, and with the belief that he could live but a few weeks he was referred to a special hospital for the treatment of tuberculosis. Here it was noted that the man was very ill and had marked dyspnea, and a temperature of 102 or 103 F. The lower half of the right chest was flat on percussion, and on aspiration about one-half ounce of turbid fluid was evacuated. No empty bed, however, was available in the hospital, and an immediate ejection of the patient from his boarding-house was demanded. I then first saw the patient, and had him admitted to a surgical ward of the Samaritan Hospital, where for sixty-two days he was treated by forced feeding, out-of-door life, and moderate doses of creosote.

The lower lobe of the right lung continued flat, with diminished resonance, and without breath sounds. An aspiration needle introduced into the chest in this region penetrated the lung, showed no respiratory oscillations (indicating pleural adhesions) and on removal, the point of the needle contained caseous material. The condition, therefore, was arrested pulmonary tuberculosis, with massive caseation of the lower right lung, which evidently would soon liquefy and cause death.

Mr. N. and his friends desired surgical procedure, and it was determined to attempt the removal of the entire lower right lobe. On June 14, 1907, he was anesthetized by scopolamin-morphin, reinforced during the operation by small quantities of chloroform, and a rectangular flap, containing segments of four ribs, was turned up from an area below and internal to the

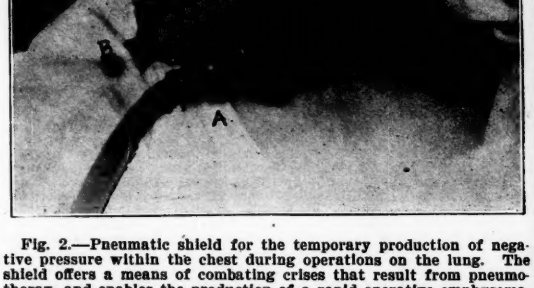

Fig. 2.—Pneumatic shield for the temporary production of negative pressure within the chest during operations on the lung. The shield offers a means of combating crises that result from pneumothorax, and enables the production of a rapid operative emphysema. The shield has an inflated rubber rim, a large glass window, an attachment (A) connected with an aspirating tank, and an arrangement (B) for releasing or regulating the partial vacuum.

apex of the scapula. The pleural cavity was found to be absolutely obliterated, and the thickened pleura was everywhere densely adherent to the lung. With the greatest difficulty the lung was separated from its pleural attachments. Below it was difficult to separate the lung without lacerating the diaphragm, and to the left the adhesions were so marked that the separation was made through the lung substance for fear of tearing into the pericardium. The lower lobe of the right lung was isolated to its hilum and delivered through the chest wall (Fig. 1).

With the delivery of the lung and the traction on its root the breathing improved. The hilum of the lung was clamped in segments and the lung tissue divided, step by step, with the application of further clamps. Catgut ligatures were then introduced with a needle into the hilum, the stump ligated in sections, and the clamps removed. There was very little bleed-

1. In Th. Gluck's monograph presented before the Thirty-sixth German Surgical Congress (Archiv. f. klin. Chir., lxxxiii, 581) is recorded a resection of the lower lobe of the right lung for tuberculosis in a child of five years. The child had disease of the right femur and ankle, and a right purulent hemorrhagic pleurisy. The extent of the resection and the technic are not described, but the child was alive several months later. In bronchiectasis the sclerosis and shriveling of the functionless tissue are favorable to pneumectomy, and a few successful operations have been recorded for this condition. Gluck reports a resection of the left upper lobe and a total resection of the left lower lobe of the lung for bronchiectasis multiplex fœtida, the patient surviving the operation for seven months. Heidenhain (Archiv. f. klin. Chir., lxiv, p. 891) reports a resection of the greater part of the left lower lobe of the lung on a patient of forty-three. Four operations were done on the same patient and the lung tissue removed in pieces. Although the hemorrhage was profuse, the final result is reported as satisfactory. The quantity of lung tissue removed was about the size of a fist and contained a carcinomatous nodule. Riedinger (v. Bergmann's System of Practical Surgery, 1904, vol. ii, p. 518) mentions the case of a boy of eight years on whom he did repeated operations for the removal of multiple bronchiectatic foci; almost the entire upper left lobe of the lung and the upper portion of the lower lung were finally resected with marked improvement. Murphy's article on the "Surgery of the Lung" (THE JOURNAL A. M. A., July 23 and 30, and August 6 and 13, 1898), contains an elaborate review of the experimental and clinical work done prior to 1898, and this together with Tuffier's "Chirurgie du Poumon" records a number of partial resections of the lobes of the lung for tumor and for other conditions.

ing from the pulmonary vessels. The main bronchus was ligated, and a flap formed of pulmonary tissue sewed over its lumen. The portion of lung tissue adherent over the pericardium was now removed. The lowest segment of the rib was excised and a drain of plain and iodoform gauze was introduced into the enormous cavity. During the ninety-five minutes of operation, the breathing was at all times irregular and tumultuous, especially during the separation of the pleural adhesions, and this with the weakening heart action and the fall in blood pressure led to frequent delays.

The portion of lung removed was solid from caseation and weighed 770 grams. On the evening of the operation the temperature reached 105 F., but the following day fell to 99 F. For two days the blood pressure was so low that the radial pulse was imperceptible, after which the pulse gradually improved. The patient's appearance was better than the low blood pressure would indicate. After the fourth day, the patient was kept constantly in the open air. There was little or no cough, and the patient showed rapid improvement. The pulse at times dropped below 100, and the respiration to 28. On the ninth day the patient was permitted to be in a chair.

On the night of the tenth day following the operation there was a severe thunder storm, and apparently, with almost inconceivable oversight, an attendant neglected the patient on the porch; in the morning the day nurse found the bed drenched, and the patient with marked dyspnea, loud râles, and difficult, frequent and ineffective cough. The pulmonary edema progressed, and on the fourteenth day the patient died.

A limited postmortem examination showed that the skin wound had healed firmly, except for a small area in the lower part used for drainage. The rib ends adjacent to the wound were denuded and bathed in pus. The portion of the right lung remaining in the body, although attached to the chest wall by firm adhesions, was atelectatic and congested. It weighed 320 grams. The middle lobe showed miliary tubercles and areas of caseation; the upper right lobe, small miliary tubercles and puckered cicatrices at the apex. It is believed that the process in the upper lobe was easily within the range of spontaneous absorption. The left lung weighed 590 grams, showed congestive edema and mucopurulent bronchitis, but was nearly free from gross evidence of tubercular disease.

The experience in this case suggested the following: (1) The continuance of life and respiratory action, although all of the right lung was thrown out of function by the operation, indicating the feasibility of removing the entire right lung with a continuance of life, provided the patient could survive the immediate shock. (2) The possible desirability of omitting immediate drainage to avoid early mixed infection and better to maintain a negative pressure within the thorax. (3) The desirability of removing all segments of ribs within the wound area to permit early, partial obliteration of the chest cavity, and to avoid secondary necrosis. (4) In the present operation the flap ran from the fifth to the ninth rib; in the removal of the entire lung the incision should be placed higher, and it might prove desirable to slide the scapula forward and reflect the rhomboid muscles from the scapular attachments, giving a more direct access to the root of the lung. (5) The possible value of a pneumatic shield (Fig. 2) made of glass or of metal, containing a glass window and having an inflated rubber rim capable of close approximation to the chest wall. Such a shield placed over the wound would enable one immediately to overcome sudden catastrophies from pneumothorax or atmospheric pressure operating on the great vessels and heart, and would enable a closure of the wound with the maintenance of a negative pressure within the chest, and permit observations as to the influence of negative pressure on intrathoracic hemorrhage. The shield enables the production of an immediate operative emphysema.

While we have found that a lobe of a lung of the lower animal may be made to occupy even twice the normal space by the negative pressure produced by the shield, the safety of such an abrupt traumatic emphysema as a means of filling pulmonary cavities in human practice has not been ascertained. Such an emphysematous lung does not completely collapse but remains distended. The gradual production of an emphysema is constantly observed in pulmonary tissue free to expand but yet incapable of filling the normal thoracic cavity.

3302 North Broad Street.

A CLINICAL STAIN FOR THE SPIROCHÆTA PALLIDA.*

HARRY S. GRADLE, M.D.
CHICAGO.

The great objections to the staining methods commonly employed in searching for the *Spirochæta pallida* are the large amount of time they require and the uncertainty of the complicated stains. Therefore, a simple staining method that is reliable and short would not only tend to further research on this most important protozoön, but would also make microscopic evidence of the presence of the *Spirochæta pallida* of great diagnostic value clinically. In about twenty-five primary lesions which I have examined for Schaudinn's organism, and in all of which the clinical diagnosis was positive, I have every time demonstrated its presence. Two cases of doubtful nature were also proved positive on microscopic examination, while many other cases were entirely negative. Usually, the spirochete can be found with but a few minutes' search and can be differentiated from other organisms of a like morphology with but little difficulty. In recent cases in which the patients have not yet been treated with mercury, the spirochete can be demonstrated in the circulating blood, but it disappears soon after mercurial treatment has been inaugurated.

Three different solutions are used in this stain and they must be kept separate as when mixed they tend to decompose in about sixty hours.

Solution 1:
- Rectified Grübler methylene blue 0.5
- Potassium carbonate 0.5
- Water 50.0

Solution 2:
- Potassium cyanid 1.0
- Water 50.0

Solution 3:
- Potassium iodid, 1 per cent. solution.

Equal quantities of these solutions should be used and mixed intimately. If used as a rapid clinical stain, a small drop of the mixture should be put on a clean slide that is free from fat. A small platinum loopful of the material to be examined — best, serum or pus from a primary lesion—should be intimately mixed with the stain, preserving, however, the drop form as much as possible. Allow the staining to proceed for one minute. Then drop on a clean cover-slip, thus spreading the fluid equally and examine at once with an oil-immersion lens. Everything here stains blue, but the *Spirochæta pallida* stains slightly lighter and can be easily seen.

The stain may be employed, however, with smears made in the regular manner. The smear should be

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* From the Pathologic Laboratory of Rush Medical College.

made as thin and as evenly as possible and should be allowed to dry in air for at least ten or fifteen minutes. The mixed stain should be put on the slide and allowed to act for one minute without heat. Excess of stain is washed off in water and dried between filter papers. The *Spirochæta pallida* here is also stained blue along with the other substances present.

A NEW EFFICIENT AND INEXPENSIVE FREEZING ATTACHMENT FOR THE SLIDING MICROTOME.*

MARTIN E. REHFUSS.
PHILADELPHIA.

Any process of hardening tissues rapidly at once attracts attention. Within recent years the freezing methods have been very much in use. Their rapidity and ease of application recommend them to the physician and pathologist alike, and the slight distortion occasioned by their use is more than compensated by constant results when properly employed. The fact that no prolonged fixing, dehydrating or constant changing of solutions is necessary, has long been the most potent argument for their use. Frequently, the chemical agent selected for hardening penetrates only the periphery, while this method insures a thorough and uniform hardening of the specimen. Large pieces are no bar to its use—they merely take more time to harden thoroughly

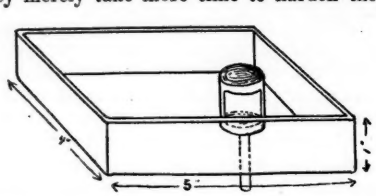


Fig. 1.—The general construction plan and dimensions of the box.

while small pieces are more easily manipulated and less liable to tear.

There are many who use the sliding type of microtome exclusively, and must rely entirely on the ether method for their frozen sections. Any simple, clean and inexpensive apparatus which might accomplish this task, and which could readily be applied to their microtomes would be appreciated.

Any one who has had any experience with the ether method knows the inconstancy of results. Often wishing sections early, I have used the other method, but was discouraged by the amount of labor and assistance necessary; therefore, I was compelled to seek some other means of accomplishing the same purpose. Remembering the employment of the freezing mixture, it occurred to me that I might devise some apparatus of a similar nature which would serve the purpose. One thing, however, prejudiced me against freezing mixtures, the constant drainage of brine, which is the source of considerable splashing as well as uncleanliness. Why not utilize the brine? It is the source of contact and the medium for the transmission of the cold. Investigation proved that such a procedure is entirely rational, and on that basis the following piece of apparatus was made:

It consists of a metal box (Fig. 1) (in this instance phosphor bronze), toward one end of which is attached a plug (c, Fig. 2), which can be inserted in the same slot as the universal clamp. Its dimensions are 4 x 5 x 1 inches, although it can be modified to suit the microtome. In the same axis with the plug is the corrugated object carrier (a, Fig. 2) attached to the box by a screw thread (b, Fig. 2). The carrier of the same metal is hollow, its upper and lower discs being connected by two small upright arms, thus allowing the brine to circulate through the carrier. The surface of the upper disc is corrugated by a series of concentric grooves. Its surface projects above the edges of the box so that the free passage of the knife can occur.

The box is not perforated. In this it is radically different from other freezing apparatus. The brine is not

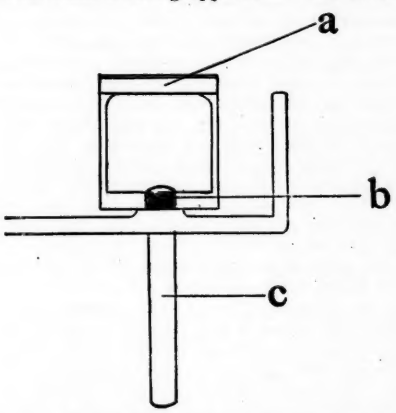


Fig. 2.—a. The corrugated upper plate which is the object carrier; b, the projecting screw by which the carrier may be attached to the box; c, the plug by which the box is fastened to the microtome.

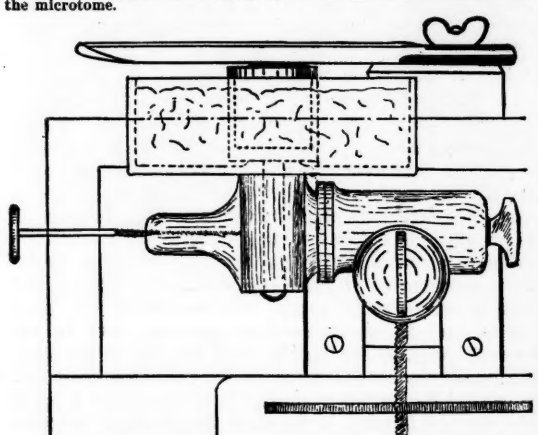


Fig. 3.—The box attached to the microtome.

interfered with, being allowed to circulate through the mixture. My method of using the box is to place it on a table and then transfer a mixture of ice and salt to the box. It is especially desirable to have the ice finely ground to facilitate freezing. It can very readily be transferred by means of a spoon, alternating the ice with the salt. Then place the object, which has preferably been immersed, in a strong gum solution (gum acacia in aqueous solution), or through any media which may be preferred by the operator, fixing, etc. In about one to three minutes the tissue is frozen, the gum turns

* From the Pathologic Laboratory of the University of Pennsylvania.

white and glossy, and the object is ready to cut. No attention need be paid to the brine and freezing. Attention can be concentrated on the cutting. No brine is spilt, there is no splashing—all is neat and clean. When one is finished cutting, all that is necessary is to remove the box and transfer it to a basin of water. Rinse and thoroughly dry the instrument, and it is once more ready for work.

I have used both the ether method and this one in a number of instances, and perhaps a comparison of the results might not be out of place.

Expense.—Ether is expensive and none but the best ether must be used. The cost of the freezing mixture is practically ***nil.***

Time.—Ether freezes slowly, and only after frequent exchanging of bottles. This method freezes rapidly, usually in from one to three minutes.

Thawing.—Ether frozen specimens thaw very rapidly; often the mere exchange of bottles is sufficient to bring this about. Using the above method, however, I have frequently kept specimens hard and fit for cutting for one-half to three-quarters of an hour.

Assistance.—In the ether method this is necessary to keep the specimen frozen while sections are cut. This is entirely obviated in the other process.

To some persons the *atmosphere of ether* is objectionable.

Cleanliness.—Some investigators have condemned the ice and salt freezing because of the splashing and slush attached to it, but as I pointed out above, it is because of faulty application and not because of the method. If this method is properly carried out, no such uncleanliness should occur.

I have used this method a number of times, with good results. But one precaution is to be observed, namely, to keep the top of the corrugated plate especially free from salt; if salt gets on the object carrier, freezing will be inhibited.

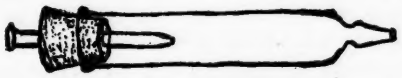
1417 South Broad Street.

AN INSTRUMENT FOR ACCURATELY REGULATING THE AMOUNT OF FLUIDS GIVEN SLOWLY BY RECTUM.

GEORGE B. LAWSON, M.D.
WYTHEVILLE, VA.

This instrument consists merely of the barrel of a medicine dropper fitted air tight, by means of a perforated stopper, into the barrel of a pointed glass urethral syringe as shown in illustration.

The tubing on a fountain syringe is cut near the bag and the apparatus is inserted between the cut ends. The liquid can be seen as it drops from the glass tip to the bottom of the air space in the syringe barrel. A small stopcock is put in the rubber tubing between the appa-



ratus and the rubber bag. One may readily adjust the stopcock so as to get a steady stream or only a few drops each minute. A small catheter is attached to the rubber tubing and inserted into the rectum as is usually done.

This apparatus has the advantage over the old style of partially grasping the tube with an artery clamp because after the tube is inserted in the rectum one does not know whether the liquid is flowing or not, or if flowing how fast.

By previously estimating the number of drops to the dram, one can thus get the total amount of fluid given each hour when this apparatus is used. Thus I have found it convenient to order forty drops a minute continuously for days.

This apparatus has been used for about eight months at the King's County Hospital, and was found singularly convenient in many cases in which the absorption of fluids by rectum was desired—postoperative cases, severe burns, severe infections, etc.

Theoretically, at least, it seemed better in the toxemias to use plain water in place of normal saline so that the osmotic pressure would increase the absorption; also by increasing the fluids of the body without increasing the sodium chlorid one better facilitates urinary secretion.

TRAUMATIC DISLOCATION OF THE HEAD OF THE FIBULA, CAUSED BY INDIRECT VIOLENCE.

F. W. DUDLEY, M.D.
Attending Surgeon, St. Paul's Hospital and Public Free Dispensary.
MANILA, P. I.

This case is reported simply that it may be added to the statistics of dislocation of the fibula. So far as I can ascertain, only four cases of this particular variety have been reported to date.

Patient.—A lad of 17 years received the injury by jumping from a bank of earth, four feet high, to the ground, his foot turning inward.

Examination.—On inspection, a prominence was noted on the outer side of the right leg, a little posterior to the normal situation of the head of the bone. The leg was flexed and the patient unable to walk.

Treatment.—The usual means of reduction recommended, that of simply applying direct pressure, failed. The leg was forcibly flexed in order to relax the biceps femoris, and the foot and toes extended so as to make tense the tibialis anterior, extensor hallucis longus and extensor digitorum longus. The former muscle, of course, aiding owing to part of its origin being from the interosseous membrane, the intermuscular septum between it and the extensor longus digitorum and from the deep surface of the fascia cruris. The operator facing the patient, the limb was grasped, thumbs in front resting over the spine of the tibia, for the fulcrum, palms applied over the head of the bone, the fingers being insinuated posterior to the upper extremity of the same, when the latter was drawn forward by the finger tips and at the same time slightly lifting it outward, it slipped into place without trouble.

A compress was applied over the head of the bone and secured in place with a few turns of a gauze bandage. The patient walked away and pursued his usual occupation, that of student, without interruption.

Farm Work for the Insane an Economic and Therapeutic Measure.—The value of a well-cultivated farm in connection with a charitable institution is strikingly illustrated by last summer's result of the management of the farm connected with the Dunning (Ill.) institutions. Besides providing fresh garden produce from early spring until late in autumn for the 3,300 inmate and employés, enough winter vegetables were grown to provide an ample supply until next May. Fifty-one varieties of vegetables were grown this season. All the work was performed by inmates of the insane hospital under the supervision of the farmer. Less than 100 acres were under cultivation, but the crop of vegetables produced was valued at $7,000. Aside from the money saving which this large production from the institution farm assured, the benefits in the way of providing wholesome and steadying occupation for a large number of quiet insane patients were of importance. —*Cooperation.*

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[*For other information see second page following reading matter.*]

SATURDAY, APRIL 18, 1908.

ANTIVIVISECTION IN NEW YORK AND NEW JERSEY.

Evidently the advocates of the proposed antivivisection laws realize that they are losing ground. The present campaign in New York instead of being based on wholesale denunciation of the medical profession in general and of all biologic investigators in particular, is rather addressed to physicians with the plea to join in preventing the "indiscriminate abuse of animal experimentation by unauthorized persons." Herein the supporters of these proposed laws beg the question, since it has been repeatedly and specifically denied, by those in a position to speak authoritatively, that any such abuse exists or that there is any necessity for restriction aside from that already furnished by existing laws. The burden of proving the existence of such abuse lies with the defenders of the proposed laws. The supporters of these measures, however, have always been distinguished by their disregard of the fundamental facts involved. For instance, a special writer for a city daily recently wrote of the cruelty shown by demonstrators in physiology, who, she said, "cut out the eyes of living rabbits in order to demonstrate their internal structure." Such a statement carries internal proof of its absurdity to any intelligent high-school pupil.

Collier's Weekly is rendering another notable service to the public in its endeavor, by the publication of facts and sane logic, to counteract the annual wave of uninformed sentimentalism manifested by the proposed so-called "antivivisection" legislation in both New York and New Jersey. In a series of editorials running through the last half dozen numbers, that journal has endeavored to inject a sober word of reason and common sense into the heated partisan discussion that has been aroused by the New York bill. In the first editorial it was emphatically stated that the present agitation in New York was not the result of public sentiment, but that it "has been worked up by a newspaper, hungry for sensation, by an absolute misrepresentation of the facts." The motive of one New York newspaper is shown by the following: "The New York County Medical Society was instrumental in having the New York *Herald* legally prevented from carrying certain medical advertising and that paper seldom forgets a grudge. Moreover, this agitation happens to be extremely good business." Attention is also called to the analogous opposition shown to dissection, anesthesia, vaccination, etc. As the editor points out, it would be quite as reasonable, though far less serious, to advocate the abandonment of fishing because the process caused pain to the bait. Regarding the crusaders themselves, *Collier's* says: "They are not to be laughed out of court, these crusaders in a mistaken cause, for their contention of unselfish and ennobling principles. But their apparent humanitarianism is fallacious. Intended to reduce the sum of animal suffering in the immediate sense, it (the proposed law) would in the end immeasurably retard the work of alleviating human pain and saving human lives." Another editorial says: "No more weak and foolish agitation has been started than this attack on medical progress for the sake of the 'poor, defenseless dog.' There is enough wanton cruelty in this world, whether to animals or to children, women and men. Let our sensational newspaper, let excited friends busy themselves with the millions who are needlessly in pain and keep their hands off that profession which is doing most to lessen the suffering of this world. A law opposed by all competent doctors in the world is a foolish and harmful law to pass."

The practice of medicine, in many branches, has not yet become an exact science, owing to the difficulty of proving, through the human organism, the truth or falsity of many theories regarding the causation and course of diseases. For the correct solution of these problems animal experimentation is indispensable. Many of these questions relate to the prevention of disease and all have to do with the alleviation and shortening of disease processes. The public, therefore, and not the medical profession is the gainer through animal experiments. It is only those members of the medical profession who desire to make themselves of more value to their patients, those who have devoted themselves to scientific research for the benefit of humanity, or the leaders in the profession, face to face with an unsolved problem, involving human misery and suffering, who have either the time, inclination, ability or equipment to carry on a course of animal experimentation. The accusation, frequently made by implication, that the same man who tenderly and faithfully ministers to the sick and suffering also wantonly gloats over the writhing dog or the suffering rabbit is palpably absurd. As to the frequently made charge regarding the use of animals in demonstrating the action of drugs or the technic of operations to classes of medical students, the greatest objection at present is not that these things are too common but that they are so uncommon. Too few of our medical colleges are utilizing this method of instruction which is necessary to fit the future physician to cope intelligently with disease. So long as civilization exacts pain and toil, suffering and death, of the lower animals, not only for commercial and industrial reasons, but in many cases simply for the gratification of vanity or the indulgence of luxurious tastes, so long will the reformer, desiring to alleviate

animal pain, find an ample field for the exercise of his well-meant efforts, without ignorantly interfering in the most altruistic of all modern scientific movements, viz., the prevention and cure of the diseases to which mankind has long been heir.

COLD AS AN ETIOLOGIC FACTOR IN TETANUS.

Before the days of bacteriology, exposure to cold and wet was regarded as one of the important causative factors in tetanus, and even now it is frequently noted that such an exposure is the incident which precedes an attack of so-called idiopathic tetanus. Considerable experimental work has been done to determine what relationship exists between these phenomena, but it is only recently that any positive results have been attained.

In May, 1907, Ciuca reported to the *Société de Biologie* that he had been able to induce tetanus in white mice, after immersing them for a period in a freezing mixture, by injecting the spores of tetanus, freed of the toxin by exposure to heat. Vincent,[1] going over the same ground, confirms this, but states that it is only after the little animals have been almost killed by the cold that tetanus may be thus induced. Vincent's results with healthy guinea-pigs and rabbits were negative, but he found that if the experiment were tried with animals which were sick, injured or greatly fatigued, tetanus not infrequently followed. An apparently paradoxical state of affairs presented itself in the discovery that while the simple exposure of the entire animal to cold was not sufficient to induce tetanus in rabbits, into which had been injected the spores, the exposure of the extremity injected almost invariably resulted in the development of the disease. This Vincent explains by the fact that the isolated extremity is easily reduced to a temperature at which the phagocytes lose their power of ameboid movement, and therefore their phagocytic power, while it is impossible to reduce the temperature of the whole body to any such degree. Undoubtedly, however, this factor enters into the problem to some extent when the general body temperature is greatly depressed.

Vincent suggests that, with the lessening in activity of the phagocytes, the opsonins and alexins are also inhibited in their action. He has shown experimentally what has long been inferred clinically, that exposure to cold does have a marked influence in the development of tetanus.

1. Bull. de l'Acad. de Méd., Feb. 17, 1908.

TAINTED MONEY.

Cases of syphilis insontium have undoubtedly been contracted by the medium of dirty money; how often this happens no one can say—it is probably not rarely. No one will deny that infections are transmitted by this means, and especially among the careless. In one of the Mills Hotels in New York City, institutions in which men of limited means are accommodated, the superintendent died recently of malignant scarlet fever. The physician who made this diagnosis (which a consultant corroborated) believed that the disease was in this case contracted through the handling of many dirty greenbacks. Indeed, it would be difficult to find anywhere in civilization a medium of exchange so filthy and so much a menace to the public health as is most of our paper currency.

We are now undergoing a wholesome awakening with regard to public health. We are resenting unventilated public places, insanitary vehicles, polluted atmospheres, the depredations of infection-breeding insects, and the sale of impure foods. In our fight against such things we should not neglect currency, which when soiled is a possible means of propagating disease and a certain means of offending every esthetic sense.

There can be only one reason why intelligent citizens expose themselves with so little complaint to the possibility of diseases from this source—and that is the value which such paper represents. Perhaps the situation is endured because it is deemed irremediable. But if it is, this certainly should not be the case. Banks doing much business invariably pay out crisp and clean bills, which they have exchanged at the federal treasuries for the soiled ones that have been deposited with them. That is one of the functions of a bank, which surely all should be able to fulfil. There is no essential reason why bank notes, greenbacks and treasury certificates should not always be clean. The expense to the government and to the banks of retiring from promiscuous circulation all unclean paper money should not be prohibitive, and they would be compelled to take this action were the public to demand it.

At any rate, if clean money were at all times and in all places demanded, a sentiment would quickly be created which could not be disregarded, and which would readily be responded to by the authorities; many of the banks need now no such prompting from their patrons. We have recently become prodigiously excited over the removal of a motto from some of our coins; the expenditure of one-tenth this energy would bring about the reform here urged.

DEMONSTRATION OF TUBERCLE BACILLI IN SPINAL FLUID.

The comparative ease with which tubercle bacilli can be detected in the spinal fluid obtained from patients with tuberculous meningitis, thus establishing a positive diagnosis, does not seem to be so generally appreciated as it should be. A recent article by G. Canby Robinson[1] is therefore timely. This article states that fluid obtained by lumbar puncture from cases of tuberculous meningitis is characteristic in its appearance, being generally almost clear, with a slight opalescence or at most a slight turbidity, and with a tendency to de-

1. Bulletin of the Ayer Clinical Laboratory, No. 4, p. 42.

velop a delicate, cobweb-like coagulum after standing for a short time. Normal spinal fluid is clear, watery and without tendency to coagulate; while in acute meningitis due to the meningococcus, pneumococcus, or pyogenic organisms, the fluid is, almost without exception, distinctly purulent. It is fair to say that when clear, slightly opalescent fluid in which a veil-like clot forms in a few hours, is obtained comparatively early in the disease in a patient with symptoms of meningitis, in all probability the patient is suffering from tuberculous meningitis. The finding of the tubercle bacillus, which, of course, constitutes the conclusive proof, is rendered easier by the fact that when coagulation takes place the fibrin begins to deposit on any solid body that may be in the fluid, and hence the tubercle bacilli that are present are, as a rule, nearly all included in the clot, and thus localized in favor of examination. Therefore, if we pick out the clot which forms after the fluid has been allowed to stand, spread it on a slide, fix by heat, and stain as in examining sputum for tubercle bacilli, the micro-organism can usually be found. As an additional precaution, it is perhaps well to centrifugate the fluid left after removing the coagulum, and add the sediment thus obtained to the coagulum before staining. By this relatively simple procedure, applicable by any practitioner who is accustomed to examine sputum, tubercle bacilli can be demonstrated in over 75 per cent. of all cases of tuberculous meningitis, and careful technic will probably give positive results in nearly 90 per cent.

THE SURVIVAL OF TYPHOID BACILLI IN SOIL.

As far back as 1889 it was shown by Grancher and Deschamps that from soil inoculated with a bouillon emulsion of typhoid bacilli the living organisms could be recovered after a period of five and a half months. Robertson, by the frequent addition of culture medium, was able to keep them alive in the soil for ten months. More recently, Lorrain Smith tried inoculating soil with an aqueous emulsion of the organisms and found that, lacking the presence of the artificial culture medium, they lived a much shorter period. In his experiments twenty-one days proved the longest period that they were shown to exist. W. Mair[1] has recently conducted some investigations which bear on this subject, although the object of his study was primarily to determine the effect on the soil as a habitat for certain organisms of sterilizing it by steam under pressure. The earth which he utilized was taken at a depth of three or four inches below the sod from the grounds of Queen's College, Belfast. It was inoculated with aqueous emulsions of the organisms and was kept under conditions of temperature, light and moisture as closely simulating its natural surroundings as possible. Under these conditions, the *Bacillus typhosus* was shown to be present in a living state after eighty days, though there was no evidence that it was capable of multiplying and leading a saprophytic existence. The *Bacillus coli communis* was found after much longer periods. Some of his samples of soil were shown to be rendered much less hospitable to the bacilli if they were previously sterilized in an autoclave. This he attributed to the development of some bactericidal substance. Of course different soils vary greatly in their suitability for the growth of various organisms, but the fact that it is possible for the typhoid bacillus to live for eighty days in any soil under normal conditions is suggestive of the extent of the danger from certain methods of sewage disposal.

1. Journal of Hygiene, viii, No. 1.

"A NATIONAL DISGRACE."

Our esteemed contemporary, the *New York Medical Journal,* recently[1] discussed under the above caption the subject of misbranding of commercial products. The editorial, which was an excellent one, dealt specifically with but one phase of the misbranding evil—that of placing foreign labels on articles of American manufacture. It concludes: "But it is not with the element of commercial fraud that we are here concerning ourselves. The worst of the whole misbranding business, apart from the substitution of injurious for wholesome products, is its inevitable bolstering up of the disgraceful feeling that we Americans are not justified in holding any of our home products in the highest esteem. That affectation needs to be rooted out. . . . Let us freely admit our shortcomings but let us at least give our products the chance to win under their own names whatever approval they may be found to deserve." While commending this patriotic attitude and concurring fully in the sentiments expressed, we can not help feeling that the more important point in the misbranding business is that very "element of commercial fraud" with which our contemporary states it is not concerning itself. It is this element that bolsters up the un-American affectation complained of. More than this, it is the cause of another type of misbranding, which to the physician is of even more importance than the food question—that of misbranding drugs. For instance, a preparation is advertised to physicians as being a synthetic compound requiring special skill in its preparation and non-toxic in its effects; on analysis this product is found to be a simple mixture of acetanilid and sodium and ammonium carbonates. The physician, we venture to suggest, has a right to feel more indignant over such misbranding than he would when told that the Camembert cheese he had eaten was a product of the State of New York. Or, suppose a preparation on the market is advertised as a cordial of the extract of cod-liver oil; suppose, too, analysis proves that this preparation contains only sugar, alcohol and glycerin—none of which is to be found in cod-liver oil. Is the "element of commercial fraud" here disclosed of no interest to the physician? Or is it of less moment than the fact that Sparkling Moselle is but California Catawba? It is possible, of course, that our contemporary has good and sufficient reasons for not concerning itself with other than the patriotic side of the question. A cursory examination of this journal's advertising pages might suggest that herein lies an insurmountable obstacle to the free discussion of "commercial fraud" in the branding of pharmaceutical products.

1. Feb. 8, 1908.

FEDERAL AID IN THE SUPPRESSION OF QUACKERY.

A verdict recently rendered by a federal jury should be an encouragement to those interested in the suppression of quackery. A certain Mr. Hibbard, said to be the proprietor of the Boston Medical Institute and the Bellevue Medical Institute of Chicago, as well as of similar establishments in other cities, was indicted by the federal grand jury and placed on trial on the charge of using the United States mails for fraudulent purposes. We learn from the newspapers that he has just been sentenced to two years in prison, although a temporary stay of execution has been granted. The news of his conviction is said to have created considerable sensation in the suburban city in which he lived and in which he was regarded as a model citizen. The instructive point to those interested in the suppression of quackery, however, is the prompt and effective results which followed federal interference through the Post Office Department. Repeated efforts have been made to put the advertising "medical institute" or the "medical company" out of business by proceeding under the medical practice acts, which in many states authorize the state board to revoke licenses for "unprofessional conduct." Most of these efforts have been failures owing to the fact that the average lay jury does not appreciate the conditions involved in the charge and is open to arguments from the defendant's lawyers based on "professional jealousy" and like reasons. The charge of using the mails for fraudulent purposes, however, brings the case under the jurisdiction of the postal inspectors and the federal courts, and narrows it down to the plain issue of fraud and dishonesty in the conduct of business. Conviction on this charge is much more easily secured than under the state statutes, since it is safe to say that practically every advertising medical establishment or advertising "doctor" exists by reason of fraudulent and misleading claims and statements made to patients. This fact is well known to the medical profession, but has apparently not been grasped by the public. Conviction on this charge places the culprit in the position of a common swindler and does not allow him to pose as a martyr before the public or as the victim of "medical persecution." It also accomplishes the additional purpose of eliminating the advertisements of the particular institute or individual from the daily papers, since the postal authorities will not admit to the mails as second-class matter any publication containing the advertisement of a violator of the postal regulations. We hope to present some details of the testimony in this case at a later date.

THE PURITY OF THE GREAT LAKES.

A meeting of more than local importance was held at Chicago on Saturday, April 11. State health officers of Indiana, Illinois, Wisconsin and Michigan, as well as representatives of over twenty cities and villages which border on Lake Michigan and which obtain their water supply from it, discussed the problem of maintaining the purity of this great body of fresh water. A permanent organization, embracing the health authorities of the four states which border on the lake and the cities which use it, was formed, to be known as the Lake Michigan Sanitary Association. Interstate cooperation for this purpose is most commendable.

MEDICAL MEDALS.

Historians have come to realize, especially in recent years, that medals constitute important documents of absolutely authentic significance. This is as true for the history of medicine as elsewhere, so that the description of the various medals and medallions of all kinds which has been made with such patience and discriminating study by Dr. Horatio R. Storer of Newport, a former vice-president of the American Medical Association, is likely to be a great help to those who wish to write about medical history. A recent article by him in the *American Journal of Numismatics*[1] on "The Medals, Jetons and Tokens Illustrative of the Science of Medicine," is the seventy-fourth of a series of such articles that have appeared in that publication. In this particular article he discusses about twenty additional medals not previously described. Thus far 2,531 of these tokens have been described. The present list describes, beside the medal given to Dr. Nicholas Senn in 1905, the medal given by the School of Tropical Medicine to Dr. Carlos Finlay chief sanitary officer of Cuba, for his discovery of the transmission of yellow fever by the mosquito, to Col. W. C. Gorgas, U. S. Army, who, as chief sanitary officer of Havana, made practically useful the discovery of Dr. Finlay, and to Dr. Theobald Smith for his investigation on the blood parasite of the so-called Texas fever of cattle. This is known as the Kingsley Medal and bears the name of Mary Kingsley, a distinguished African traveler, who founded it. Dr. Storer remarks: "Strangely enough, the names of the recipients appear only on the cover of the case containing the medal." Probably no better way is open to a historian of telling how a generation viewed a particular discovery or medical advance in any department than the study of the medals of honor awarded to discoverers and investigators. Those who have such tokens in their possession should remember that such collections are most precious.

Medical News

ARIZONA.

State Association Meeting.—Dr. John W. Foss, Phoenix, secretary of the Arizona Medical Association, announces that the annual meeting will be held at Tucson, April 28 and 29, instead of April 20, as previously announced.

ARKANSAS.

Medical Society Meetings.—At the annual meeting of the Tenth Councilor District Medical Society, held in Fort Smith, March 19, Dr. George F. Hynes, Fort Smith, was elected president; Dr. Frank B. Young, Springdale, vice-president; Dr. D. R. Dorente, Fort Smith, secretary; and Dr. Othello M. Bourland, Van Buren, treasurer. The next semi-annual meeting will take place at Bentonville.——At the annual meeting of the Lincoln County Medical Society, held in Star City, Dr. Joseph F. Johns, Grady, was elected president; Dr. W. C. Kimbro, Tyro, vice-president; Dr. Benjamin F. Tarver, Star City, secretary-treasurer; and Dr. Charles C. Price, Douglas,

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delegate to the State Society.——At the annual meeting of the Northeastern Arkansas District Medical Society, held in Jonesboro, March 11, Dr. L. H. Hill, Greenway, was elected president; Dr. W. J. Robinson, Portia, vice-president, and Dr. Olive Wilson, Paragould, secretary.

CALIFORNIA.

Hospital Notes.—The Los Angeles Orthopedic Hospital Association has petitioned the superior court of the state to change its name to Mercy Hospital of Los Angeles.——The property owners of Los Angeles, living near the site of the proposed Japanese Hospital have presented a petition to the city council, protesting against such an institution being located in the residence portion of the First Ward.

Enforcement of Vaccination.—Dr. Stanley P. Black, health officer of Los Angeles, is said to have preferred charges against the Pasadena Board of Education for admitting a non-vaccinated student to a local public school. The student in question was admitted to the public schools on a certificate from a local physician that he was not in physical condition to bear vaccination, and later on he contracted smallpox.

Charge Dismissed.—In the case of Thomas Frank Glass, San José, charged with practicing medicine without a license, the defendant is said to have proved to the satisfaction of the court that his license was legal, and the charge against him was dismissed.——The charge of practicing medicine without a license against Ernesto Scofferia, San Francisco, is said to have been dismissed, on the ground of insufficient evidence.

Celebrate Anniversary.—The fortieth anniversary of the founding of the Sacramento Medical Society for Medical Improvement was celebrated, March 17. The speaker of the evening was Dr. Douglas W. Montgomery, San Francisco, professor of diseases of the skin in the Medical Department of the University of California. He spoke on "Stimulants Used in Cooking." The meeting was followed by a banquet at the Sutter Club.

Found Guilty.—Thomas H. Storey, Los Angeles, said to have been a fugitive from justice for five months, pleaded guilty March 9 to the charge of practicing medicine without a license, and was released on $100 bond, his trial being set for May 13.——P. L. Brouillette, Compton, is said to have been found guilty, March 10, of practicing medicine without a license.——The license of Joe Egino, who conducts a dairy farm near San José, was revoked, March 16, because the milk supplied by him had been below the grade required.——Dr. B. Brooks Lee, San Francisco, convicted more than a year ago of making improper use of the mails, is said to have pleaded guilty, March 14, and to have been fined $500.

ILLINOIS.

Wins Malpractice Suit.—In the suit of James Doyle, who charged Dr. John C. Owens, Plainfield, with malpractice in the treatment of a fractured leg, the jury found Dr. Owens not guilty. Dr. Owens has started an assumpsit suit against the plaintiff for $500 to cover the amount due on the medical bill, cost of the malpractice suit, and the loss of time in attending the trial.

Personal.—Dr. William K. Smith, health officer of La Harpe, has resigned. A new board of health has been appointed, consisting of Dr. John C. Ash, president, and Dr. Isaac M. Martin, secretary; Dr. Edward W. Buhrmaster, health officer, and Dr. Levi J. Rhea.——Dr. C. D. Jones, for 18 years medical examiner for the Burlington System, has resigned and will practice in Aurora.——Dr. James L. Lowrie, Lincoln, was seriously cut by broken glass in a collision between his buggy and an interurban car, March 28.——Dr. Vincent J. Cohenour, Joliet, suffered a loss of $200 in the fire which destroyed the Barrett Block.——Dr. Fred K. Ream, Oak Park, suffered slight injuries from an explosion of gasoline in his garage, April 12.

To Study Pharmacology.—The Evanston branch of the Chicago Medical Society recently held a joint meeting with the druggists of the vicinity, at which there was a profitable discussion of nostrums, counter-prescribing, incompatibilities and other matters of interest to both professions. The resolutions suggested by Professor Hallberg concerning prescribing by druggists were adopted. After this meeting there was organized the Evanston and North Shore Pharmacological Society for the purpose of studying the composition, preparation and action of drugs. Licensed physicians and registered pharmacists of Cook County, north of Chicago, are eligible for membership. A banquet was held at Evanston, April 9, to assist the members of the two professions in getting better acquainted.

Epidemic Diseases.—The smallpox epidemic which has persisted for four months in La Harpe, has now assumed such formidable proportions that a meeting was held by the city council, board of education and board of health March 30, to discuss ways and means of checking the progress of the disease.——The Oregon school in East Cass has been closed on account of the prevalence of smallpox.——An epidemic of smallpox is said to be raging in Hillsboro.——Two cases of smallpox were recently discovered in Bloomington.——On account of the discovery of 6 cases of smallpox at Eureka, one in a student at Eureka College, all places of public gatherings, including Eureka College, have been closed.——An outbreak of smallpox is reported at Oreana.——District school 38, in Ephard's Point Township has been closed on account of smallpox.——Five cases of smallpox were reported in one house in Lincoln.——Dr. E. F. Baker, inspector of the State Board of Health, and Dr. Tully O. Hardesty, physician of Morgan County, discovered 18 cases of smallpox in Literberry, in the northern part of the county, all of mild type. None of the patients had ever been vaccinated.——Four cases of diphtheria were reported in Ottawa and five in one family in Paris.——Sterling has an epidemic of measles.

Chicago.

Emergency Hospital to be Opened.—The health commissioner has leased the second floor of 129 Harrison Street and as soon as the building can be put in readiness, will open an emergency relief station, which will be in charge of Dr. George C. Hunt, chief of the ambulance staff.

Gift to Hospital.—As a memorial to his parents, Gustav Freund has given to the Michael Reese Hospital the southeast corner of Groveland Avenue and Twenty-ninth Street, 50½ by 96 feet. The present building is to be improved and used by the hospital as a home for nurses.

Will Prosecute Advertising Specialists.—The city prosecutor promises that he will prosecute physicians and business houses that advertise cures for certain diseases and weaknesses. The ordinance provides fines varying from $25 to $200 for conviction in such cases.——H. E. Lano, who conducts what is called a "Hygienic Institute" on the North Side, is said to have been fined $200 by Judge Scovel April 3, on the charge of maintaining a hospital without license. The plaintiff failed to appear.

The Contagious Disease Situation.—During the week ended April 11 there were 609 cases of communicable diseases reported, of which 51 were diphtheria, 75 scarlet fever, 4 smallpox, 299 measles, 59 chickenpox, 35 typhoid fever, 23 whooping cough, 54 tuberculosis and 9 minor ailments. Diphtheria cases decreased 8 as compared with the preceding week; scarlet fever, 23; measles, 10; chickenpox, 20, and whooping cough, 13. As compared with the corresponding week of 1907 there were 39 fewer cases of diphtheria and 60 fewer cases of smallpox.

March Deaths.—During the month of March the death rate was more than 12 per cent. lower than the average for that month for 30 years. There was a marked improvement as compared with the corresponding month of 1907, in the contagious disease mortality, in which there was a reduction of 34.1 per cent.; a reduction in the chief impure-air diseases of 13.6 per cent., and a promising reduction in the mortality from tuberculosis. The deaths from typhoid fever, acute intestinal diseases was higher than the average for March.

Deaths of the Week.—During the week ended April 11, 600 deaths were reported from all causes, 37 fewer than for the preceding week, 117 fewer than for the corresponding week of 1907, the respective annual death rates per 1,000 being 14.44, 15.33 and 17.74. The reduction of the death rate is chiefly due to the lower mortality from pneumonia, acute contagious diseases, nephritis, cancer, nervous diseases and violence. During the week pneumonia caused 97 deaths; tuberculosis, 69; heart diseases, 58; acute intestinal diseases, 39; violence (including accident) and nephritis, each 36; cancer, 28; scarlet fever, 5; typhoid fever and measles, each 4; whooping cough, 3, and diphtheria, one death.

MISSOURI.

Suit Dismissed.—The suit for damages of Mrs. Mamie Veshion against Dr. Frank J. Dingeman, St. Louis, was dismissed, March 24, for lack of prosecution.

Communicable Diseases.—A number of cases of smallpox are reported by the health officer to exist in Sullivan County.——On account of the prevalence of smallpox at Mount Zion no church services are being held.

Illegal Practitioner Fined.—Mrs. Mary May, St. Charles, claiming to be an Indian, was arrested March 21, charged with

practicing medicine, and is said to have been found guilty and fined $50 and costs, execution being stayed on condition that she leave the county.

Personal.—Dr. Pierre I. Leonard has resigned as a member of the city council of St. Joseph.——Dr. Edward O. Greer, St. Louis, has been elected Grand Master Workman of the A. O. U. W.——Dr. James A. Franklin has been appointed local surgeon for the Burlington System, at Cameron.

Dispensaries Merged.—The Free Dispensary, St. Joseph, at Sixth and Messanie Streets, and the Red Cross Dispensary have been merged. The new staff of advisory physicians is composed of Drs. Floyd H. Spencer, Emmett S. Ballard, William H. Minton, Louis J. Dandurant, Gus A. Lau and M. S. Gray.

Osteopaths Mulcted.—The jury in the case of Miss Grace Atkinson against "Dr." Charles E. Still of the American School of Osteopathy, Kirksville, is said to have rendered a verdict, March 22, allowing the plaintiff $10,000. The plaintiff sued for $25,000, alleging that the osteopath, in the treatment, had fractured several ribs.

Society Meetings.—At the annual meeting of the Shelby County Medical Association held in Shelbina, March 26, the following officers were elected: Dr. Henry M. Pollard, Shelbina, president; Dr. William W. Owen, Oak Dale, vice-president; Dr. Adolphus G. Wood, Lentner, secretary and treasurer (re-elected); Dr. Dennis E. Singleton, Shelbina, censor, and Dr. William Carson, Shelbyville, delegate to the state association. ——On April 1 thirty members of the faculty of the Kansas City Post-Graduate Medical School and Hospital, organized the Kansas City Post-Graduate Medical Society, with Dr. Blencowe A. Fryer, president; Dr. B. Clark Hyde, vice-president, and Dr. O. G. Hall, secretary and treasurer.

NEW YORK.

Do Not Want Names Mentioned.—At the March meeting of the Medical Society of Genesee County resolutions were adopted requesting lay newspapers to omit names of the members of the society from notices.

Communicable Diseases.—As the result of the diphtheria epidemic, Concordia College, Hawthorne, has been closed.—— The epidemic of smallpox in Waterloo and Fayette is now reported to be completely under control.——An epidemic of smallpox is reported at Niagara Falls and Youngstown.

Personal.—Dr. John J. Ward has been reappointed physician to the Ellenville health board.——Dr. George P. Harran, city physician of Schenectady, has been made division surgeon of the Delaware & Hudson Railroad.——Dr. John O. Aldrich has been elected president; Dr. Henry J. Wynkoop, secretary, and Dr. D. P. Matthewson, health officer, of Bath.

New York City.

Tries to Rob Physician.—George Miller, who attempted to steal books valued at $15 from the office of Dr. George Price, Brooklyn, has been sentenced to imprisonment for six months in the county penitentiary.

Personal.—The Gibbs prize has been awarded by the New York Academy of Medicine to Dr. Norman E. Ditman, assistant attending physician in St. Luke's Hospital.——Edward B. Bronson sailed for Europe March 31.

Out of Quarantine.—On March 30 the health officer of the port released from quarantine the steamship *Rhein* from Bremen, which had been detained on account of the illness of a third-class passenger with what was suspected to be cholera.

Harvey Society Lecture.—The ninth lecture in the Harvey lecture course, April 18, at the New York Academy of Medicine, is by Prof. Alonzo E. Taylor of the University of California on "The Rôle of Reversed Ferment Reactions in Metabolism."

Hospital Opened.—The new annex of the German Hospital, to be used as an isolation department, was opened March 21. The building is a three-story structure containing 16 rooms and was erected at an expense of $30,000, the greater part of which was donated by Jacob Ruppert.

Osteopath Not a Physician.—The corporation counsel, George L. Sterling, has advised the board of health that it should not register osteopaths and that it should decline to receive death certificates signed by them. The osteopaths will probably bring a mandamus suit to obtain a decision on the constitutionality of the law passed last year by the legislature, legalizing the practice of osteopathy.

Epidemic Diseases.—Scarlet fever and measles are reported to be almost epidemic in Greater New York. For the week ended March 21 there were 961 cases of scarlet fever, 1,607 cases of measles.——As a result of epidemic diseases, St. Malachy's Home, East New York, the Home for Destitute Children, St. Mary's Home for Boys and the Home for Friendless Children have been placed under quarantine.——The steamer *Esperanza* arrived from Vera Cruz, March 24, and was held at quarantine on account of a case of smallpox on board.—— Dr. Alva H. Doty, health officer of the port, has submitted two men of the crew of the yacht *Wakiva* to examination to determine whether or not they are suffering from bubonic plague. The *Wakiva* is anchored at quarantine under the supervision and control of the health officer.

NORTH CAROLINA.

Institute Tuberculosis Society.—Durham City has organized a society for the prevention of tuberculosis, composed largely of laymen, with Dr. Thomas A. Mann, city health officer, as secretary.

Sanitarium Almost Ready.—The Charlotte Sanitarium is almost completed and ready to receive patients. The institution is a private hospital, well built and appointed, and will accommodate 100 patients.

Prevalence of Diseases.—During February measles was reported to be epidemic in 32 counties; whooping cough in 26; scarlet fever in 20; diphtheria in 19; pneumonia in 65; influenza in 37, and smallpox in 23 counties.

February Deaths.—During February 389 deaths were reported in the state, equivalent to an annual death rate of 19 per 1,000. Of the deaths, 108 were caused by pneumonia; 62 by tuberculosis; 25 by heart diseases; 20 by brain diseases; 10 by nervous diseases, and 9 by accidents (including violence).

Communicable Diseases.—During February measles was reported in 33 counties; whooping cough in 28 counties; scarlet fever in 11 counties; diphtheria in 18 counties; typhoid fever in 17 counties; pernicious malarial fever in one county; influenza in 35 counties; pneumonia in 66 counties; cerebrospinal meningitis and mumps, each in 2 counties, and smallpox in 25 counties.

Personal.—Dr. Robert E. Slocum, for several years superintendent of the James Walker Memorial Hospital, Wilmington, has resigned and will practice in the city.——The home of Dr. J. E. Cathell, Tyro, was burned to the ground March 21, with a loss of more than $5,000, on which only $2,000 insurance was carried.——Dr. Alfred A. Kent of Lenoir has been appointed delegate to the National Confederation of State Medical Examining Boards, to meet at Columbus, Ohio.——Dr. N. M. Blalock, Wake County, who removed last year to Oklahoma, has returned and located at Panther Branch, Wake County.——At the annual meeting of the State Farmers' meeting, held in Charlotte, April 2, Dr. Harry Q. Alexander, Matthews, was elected president.

Society Meetings.—At the annual meeting of the New Hanover County Medical Society, held March 26 in Wilmington, the following officers were elected: President, Dr. Edward J. Wood; vice-president, Dr. Wright Hall; secretary-treasurer, Dr. Thomas M. Green; censors, Dr. William D. McMillan Slocumb and Dr. Robert H. Bellamy, and delegates to the state association, the president and vice-president.——The Guilford County Medical Society, at its meeting in Greensboro April 2, elected Drs. Edmund Harrison and J. Pinckney Turner, Greensboro, and Dr. John T. Burrus, High Point, delegates to the state medical society, and Drs. Parran Jarboe, William P. Beall and C. S. Gilmer, all of Greensboro, alternates.——The Lumberton Medical Society was organized March 27, with the following officers: Dr. H. T. Pope, president; Dr. Neil A. Thompson, vice-president, and Dr. John Knox, Jr., secretary-treasurer.

OHIO.

Pathologists for University and Hospital.—The University of Cincinnati and Cincinnati General Hospital will soon employ jointly a pathologist to have the title of professor of pathology in the former and head pathologist in the latter institution, who will give his entire time to research work.——The plan for the new hospital now being erected includes full equipment for the study of pathology.

PENNSYLVANIA.

State Antitoxin.—According to the report of the State Health Department, more than 1,500 lives were saved by the use of diphtheria antitoxin in 1907. The number of cases of diphtheria treated with free antitoxin aggregated 4,693. Of this number 371 died, giving a death rate of 7.9 per cent. In 1906 the death rate was 11.13 per cent. In addition to the

diphtheria treated directly, immunizing doses of antitoxin were given to 3,015 persons; of these only 34 contracted the disease and but two died. At present there are 528 stations in the state for the free distribution of antitoxin.

Movement to Abandon Quarantine Station.—The Philadelphia Maritime Exchange is considering the question of dispensing with one of the quarantine stations on the Delaware river and bay. There are two quarantines now in force, the federal at Reedy Island and the state at Marcus Hook. It is proposed to ask importers and those interested in shipping to give an opinion with a view of appealing to the national government for the discontinuance of the Reedy Island station and the enlargement of the facilities of the state service at Marcus Hook, in order that it may be possible to board incoming vessels at any hour of the day or night. Both stations have surgeons constantly on duty by day, but there is no examination of vessels after sunset.

Pennsylvania Railroad Surgeons Organize.—Surgeons of the Pennsylvania Lines east of Pittsburg met at Harrisburg, March 31 and effected organization. A constitution and by-laws were adopted and the following officers were elected: President, Dr. Joseph E. Egbert, Wayne; vice-presidents, Drs. B. Frank Wagenseller, Sunbury, and Francis V. Ware, Millville, N. J.; secretary, Dr. William H. Cameron, Pittsburg; treasurer, Dr. Eugene H. James, Harrisburg; and executive committee, Dr. William B. Henderson, Phillipsburg, chairman, and Drs. William McKenzie, Conshohocken, and Charles B. Wood, Monongahela. The number of surgeons embraced in this territory is 350. The next meeting will be held in Cambridge Springs in September.

Philadelphia.

Tuberculosis Dispensary Opened.—The board of trustees of Jefferson Medical College Hospital has authorized the establishment of a department for the dispensary treatment of pulmonary tuberculosis. This department will be opened on Mondays, Wednesdays and Fridays from 1 to 2 p. m., and will be under the direction of Dr. Henry R. M. Landis.

Contagious Diseases.—On account of the presence of scarlet fever in the Hahnemann Hospital the main buildings of that institution were placed under quarantine by the direction of the board of health, March 31.——The James R. Ludlow public school was closed for disinfection by the bureau of health, April 1, on account of several cases of diphtheria.——Epidemic conjunctivitis is markedly prevalent in various sections of the city.

To End Hospital Charter.—An application was filed March 31 for the dissolution of the hospital founded by Dr. Bushrod W. James, known as the Bushrod Eye and Ear Hospital. A resolution was passed by the board of trustees for the dissolution of the hospital one year ago. The funds of the institution, amounting to $12,770.63, will be turned over to the board of city trusts for the establishment of a new Bushrod Washington James Eye and Ear Hospital, which was provided for in the will of the late Dr. James.

Medical College Society Banquets.—The annual banquet of the Coplin Pathological Society was held April 3. Dr. Hobart A. Hare was toastmaster and those responding to toasts were Drs. William M. Late Coplin, George B. McClellan, Francis X. Dercum, Randle Rosenberger, James C. Wilson, W. Warren Funk and Ross V. Patterson.——The James M. Anders Medical Society of the Medico-Chirurgical College held its annual banquet April 3. Speeches were made by Drs. Charles E. deM. Sajous, James M. Anders, Wilfred W. Hawke and John V. Shoemaker.

Personal.—Dr. Mary E. French was recently elected president of the Philadelphia Club of Graduate Nurses.——Dr. Lewis W. Steinbach was elected vice-president of the Philadelphia branch of the *Alliance Israelite Universelle*, March 29.——Dr. S. A. Sands has returned from Europe.——Dr. Persifor Frazer sailed April 4 from New York for Genoa.——Dr. John N. Rhoads was operated on for tuberculosis of the right kidney in Jefferson Hospital, April 6.——Dr. John G. Clark was the guest of honor of the Kansas City Alumni of the University of Pennsylvania at the annual reunion of the association in Kansas City, March 26.

Bequests.—By the will of the late Arthur Hagen St. Joseph's, St. Mary's and the Jewish Hospital each receives $250. Provisional bequests are also made to St. Agnes' Hospital, St. Joseph's Hospital, the Jewish Hospital and the Methodist Hospital.——The will of the late Emily Norris Billin contains a bequest of $10,000 to the Home of the Merciful Savior for Crippled Children.——Provisional bequests, from an estate of over $100.000 of the late S. D. Smith, are made to the Pennsylvania, University and Episcopal hospitals.——A bequest of $5.000 to the Episcopal Hospital was made by the late John Scholes.——The will of the late James A. Stone contains provisional bequests to the German Hospital.

Health Report.—The total number of deaths reported for the week ended April 4 was 553, a decrease of 2 from the previous week and of 64 from the corresponding week of 1907. The principal causes of death were: Typhoid fever, 13; measles, 5; scarlet fever, 5; diphtheria, 13; consumption, 51; tubercular meningitis, 10; cancer, 24; apoplexy, 11; paralysis, 6; heart disease, 65; acute respiratory diseases, 84; enteritis, 23; cirrhosis of the liver, 4; Bright's disease, 42; puerperal septicemia, 6; congenital malformation, 14; premature birth, 7; congenital debility, 12; old age, 9; suicide, 8; accidents, 13; marasmus, 6. There were 233 cases of contagious diseases reported, with 31 deaths, as compared with 248 cases and 30 deaths in the preceding week.

To Entertain Foreign Delegates.—At a meeting held in the mayor's office on April 4, arrangements were made for entertaining the international delegates who will attend the National Conference on Tuberculosis to be held in this city from September 24 to 26 inclusive. These foreign representatives are delegates to the International Congress on Tuberculosis, which is to be held in Washington, D. C., from September 28 to October 3 inclusive. The general committee is arranging a schedule of lectures to be delivered by some of the foreign delegates during their visits to various cities. Among those expected to speak are the following: Drs. Bernard Bang, Copenhagen; Emil von Behring, Harburg; A. Calmette, Lille; Emil Coin, Buenos Ayres; B. Frankel, Berlin; S. Kitasato, Japan; Arthur Newsholme, Brighton; Gotthold Pannwitz, Berlin; R. W. Phillips, Edinburgh; J. H. Spronck, Utrecht; Carl Turban, Davos Platz; Anton Weichselbaum, Vienna, and Theodore Williams, London.

Hospital Reports.—The report of the Charity Hospital of Philadelphia for March shows that 1,044 patients were treated and 1,126 prescriptions were compounded.——The report of the Polyclinic Hospital for March is as follows: Patients admitted to house, 77; discharged, 128; new patients treated in dispensary, 1,889; total visits to dispensary, 8,430; accident ward, 530.——The report of the Presbyterian Hospital for March shows that there were 228 patients remaining from the preceding month; 209 admitted; total number treated, 437; discharged, 205, and remaining, 232. The number treated in the dispensary reached 1,812.——The report of the Sanatorium Association of Philadelphia, which was instituted in 1877, shows that during its existence it has cared for a total of 2,910,109 persons. Last season, from the middle of June to the end of August, there were 107,758 admissions. There were 3.088 quarts of milk, 22,400 quarts of soup, 4,247 cups of tea and 59 barrels of crackers provided for the beneficiaries; 172 garments were supplied to those insufficiently clad. Since the last annual report a diet kitchen with dormitories and dining room has been erected. The bathing pools have been rebuilt with concrete and a carrousel, with a building for housing it, has been added.

TENNESSEE.

The Southern Medical Journal.—An announcement is out of the publication of a journal under the above title, to be a high-class representative medical journal for the South. According to the announcement, it is to promote "no pet hobby or scheme . . . its sole purpose and aim will be to advance the interests of the entire southern medical profession." Dr. John A. Witherspoon, Nashville, is to be the editor-in-chief.

UTAH.

Dispensary Opened.—The Free Medical Dispensary of the Volunteers of America, Salt Lake City, was opened March 14.

Epidemic Diseases.—Fairview is suffering from an epidemic of diphtheria, which has caused the closure of the public schools and the interdiction of public gatherings.——Diphtheria is said to be epidemic at Willard.——Owing to an epidemic of scarlet fever, measles and diphtheria in Ogden, it is said that 350 children have been taken out of the public schools of the city.——Measles is reported to be epidemic in Huntsville.——The public schools of West Weber have been closed on account of the prevalence of smallpox in the town.——The public schools of Lehi have been closed and public gatherings forbidden on account of the presence of smallpox.

WASHINGTON.

Personal.—Dr. James E. Crichton has been appointed health officer of Seattle.——Dr. James A. Ghent, Seattle, is said to

have fallen heir to $250,000 by the death of an uncle, D. A. Ghent, of Toronto, Ont.

Vital Statistics.—During February there were reported to the Seattle Board of Health 147 deaths, a decrease of 32 as compared with January. Among the chief causes of death were: Tuberculosis, 21; pneumonia, 14; other diseases of respiratory organs, 6; cancer and digestive diseases, each 7; circulatory diseases and violence, each, 17; nervous and genitourinary diseases, each, 9; typhoid fever, 2, and diphtheria, 1.

Osteopaths Barred.—The first organized attempt of practitioners of Seattle to effect the removal from the permanent office buildings of the city of practitioners designated as nonprofessional and undesirable, was made March 16, when a number of physicians having offices in the Eitel building demanded that the owners at once serve notice of eviction on all practitioners not graduates of recognized schools of medicine.

Medical Society Organized.—Physicians of Benton County held a meeting and banquet in Prosser, February 29, and organized the Benton County Medical Society, electing the following officers: President, Dr. C. C. McCown, Prosser, vice-president, Dr. D. M. Angus, Prosser, secretary, Dr. H. Welland Howard, Prosser, and treasurer, Dr. F. M. Crosby, Kennewick. Dr. Cornelius J. Lynch, North Yakima, councilor of the district, presided at the meeting.

Plague Prevention Work.—On March 9 Passed Assistant Surgeon Glover reports the work done at Seattle since January 22. During November, December and January 5 rats infected with plague were discovered, but no infected rats have been found since that time. The number of fleas found on rats has decreased from 15 to 20 per rat in November, to 6 fleas in 14 rats in February. Since January 22, 5,931 rats have been examined postmortem.

Communicable Diseases.—Colfax County health officials report that 15 cases of smallpox were reported at Oakesdale February 15.——The health officer of Spokane reports that the epidemics of smallpox and scarlet fever are now under control. ——Colville reports 6 cases of smallpox.——On account of the prevalence of diphtheria the public schools of Mount Vernon have been closed.——About 30 cases of smallpox are reported in Yakima County.——Smallpox is said to be spreading in Whatcom County. New cases have appeared in Ferndale and Nooksack.

WYOMING.

New County Society Organized.—The Fremont County Medical Association has been formed at Lander, with Dr. Thomas G. Maghee, Lander, president, and Dr. Neil D. Nelson, Shoshoni, vice-president.

Personal.—Dr. Charles H. Solier, superintendent of the State Asylum, Evanston, is spending a month in California.——Dr. J. P. Keller, for the past year a member of the staff of the State Hospital, Sheridan, has resigned, and has been succeeded by F. M. Warner, Rock Springs.

Warning Against Boy Phenomenon.—Dr. Samuel F. B. Miller, Laramie, secretary of the State Board of Medical Examiners, has received a letter from Dr. William T. Gott, Crawfordsville, Ind., secretary of the State Board of Medical Registration and Examination, warning him against a "boy phenomenon" company of illegal practitioners, whose methods were recently exposed in Indiana.

GENERAL.

American Medical Association Outing Club.—This club is arranging for a nine days' tour of the Middle West after the session of the American Medical Association. Information in regard to this trip may be obtained from Dr. Edward R. Campbell, Bellows Falls, Vt.

Missouri Valley Headquarters.—The secretary of the Medical Society of the Missouri Valley announces that arrangements have been made for headquarters of the society at the Victoria Hotel and that arrangements are now in progress for a "Missouri Valley Dollar Dinner."

Symposium on Pellagra.—A symposium on pellagra will be held during the meeting of the Medical Society of the State of North Carolina at Winston-Salem in June. All having interest in this subject are invited to attend the meeting. Pellagra has become a vital question in the South. In North Carolina they have already about 20 cases to report and cases have recently been reported also from South Carolina and Alabama.

News from Hawaii.—Chief Quarantine Officer Cofer reports that the steamship *Nippon Maru* arrived at Honolulu from Hongkong March 13, with a case of smallpox on board. The patient and 100 contacts were placed in quarantine, and the steerage was disinfected and all on board vaccinated. The plague laboratory at Honolulu reports that during the week ended March 7 109 rats were examined, and that during the following week 173 rats were examined and no plague infection was found.

Mississippi Valley Medical Association.—At a meeting of the committee of arrangements for the Mississippi Valley Medical Association, held in Louisville, March 20, the Seelbach Hotel was made the official headquarters of the association. It was decided that the president's address, the address in medicine, by Dr. George Dock, Ann Arbor, Mich., and the address on surgery, by Dr. Arthur Dean Bevan, Chicago, should be given on the evening of the first day, October 13, the meeting to be followed by a smoker in the Rathskeller. On the evening of the second day a musicale is to be given in the winter roof garden, of which Mrs. F. J. Meyers is in charge, and at which light refreshments willl be served.

Society Meetings.—The American Pediatric Society will hold its annual meeting on May 25, 26 and 27 at Water Gap House, Delaware Water Gap, Pa. Members are urged to send at their earliest convenience the titles of their papers to Dr. Samuel S. Adams, 1 Dupont Circle, Washington, D. C., that the preliminary program may promptly be issued.——The Association of American Teachers of the Diseases of Children will hold its annual meeting at the Great Northern Hotel, Chicago, June 1. To be eligible for membership in this association the applicant must be a regular physician in the United States, Canada or Mexico, in good professional standing; professor, assistant professor, clinical professor, adjunct professor of, or lecturer on pediatrics, or must hold an equivalent position in a recognized medical college or be a member of a properly organized hospital or dispensary staff actively engaged in the treatment of children.

THE KOCH DINNER.

Banquet in New York to the Famous Dr. Robert Koch.

Although and as if in honor of his arrival on these shores, the daily press has been able to locate at least two genuine cases of sleeping sickness in New Jersey and Long Island, Robert Koch's first impression in this country must have convinced him that the disease is not overprevalent with us. Wide-awake reporters and photographers have been dogging his footsteps from the time of his arrival and from everywhere invitations were showered on the man who has come here for a rest and *en route* to Japan.

The American profession will regret not having Robert Koch as its guest at the coming sessions of the American Medical Association and of the International Tuberculosis Congress, but it will also respect his desire for quiet and rest after his arduous labors in the wilds of Africa, whence he has only recently returned. It will also rejoice to know that the esteemed founder of bacteriology promises to come again soon and to give us more of his time. Brief and quiet as his present visit has to be under the circumstances, the only official dinner for which he accepted an invitation, and which was given him under the auspices of the German Medical Society of New York, will remain in the memory of those fortunate enough to attend it one of the most memorable of events and one which can not fail to be a stimulus for American scientific workers, and for those who are furthering medical institutions and education.

The German Medical Society, and especially its president, Dr. Carl Beck, deserve great credit for having been able to assemble for this event in the short time at their disposal, excellent representatives of American scientific work to greet their master. In the gaily decorated ballroom of the Waldorf-Astoria were assembled over 400 men, and the boxes above were crowded with invited ladies.

At the speakers' table the guest of honor sat at President Beck's right, at his left Dr. William H. Welch. Others were Mr. Andrew Carnegie, Drs. William S. Halsted, Baltimore; Abraham Jacobi, New York; Theobald Smith, Boston; V. C. Vaughan, Ann Arbor; C. G. Janeway, New York; V. Y. Bowditch, Boston; Theodore Darlington, Herman Briggs, New York; A. G. Adami, Montreal; T. Flexner, New York, etc.

President Beck gave the first toast, and in it merely greeted the guest in the name of the American profession to whom the name of Robert Koch means so much. He said that he did not wish to enumerate all his great discoveries. He greeted in him the simple man he had remained though all the honors that man could give were bestowed on him. This true "American spirit" in his work, he said, was emphasized also in the practical direction which he always gave to it and on the basis of which such enormous strides have been made in the prevention of disease in so short a time.

Dr. Welch greeted Robert Koch as the foremost representative of German medical thought and method of research, which had conquered the whole world. He alluded to an interesting personal recollection from a time when bacteriology was in its infancy and he working in Cohnheim's laboratory at Breslau. He told how Koch, unknown, came there from the little town of Posen to show Cohnheim his work on anthrax and how he remained closeted with him for a long time, and how Cohnheim afterward told Welch and the other workers: "There is a great man of whom we will hear much in the future."

Dr. Abraham Jacobi spoke of Bichat, Pasteur and Koch as the three founders of modern medicine, and also did honor to the American disciples of Koch who have done so much to introduce his methods into this country.

A telegram from the German ambassador was read, expressing the Emperor's great appreciation of Mr. Carnegie's generous gift of $100,000 to the "Robert Koch *Stiftung*," which he felt sure would further the international strife against tuberculosis.

Mr. Andrew Carnegie jokingly said he would add a cipher to his gift if he could be granted the power to understand and to speak German as well as those present. His English, however, gave faultless expression to his admiration for medical research and endeavors in general, and for Koch and his followers' work particularly.

Then Koch expressed in simple words his warm appreciation for this remarkable reception given to him. He did not consider himself worthy of it any more than others; he had simply tried to do what he considered his duty. He thought himself "fortunate to have sometimes found the gold among the gravel of the road which is open to everyone." Significant was his allusion to the struggle against tuberculosis, in which it was thought the institution of special hospitals was the final step, while it needed much more direct and specific efforts. He expressed the hope that the "Robert Koch *Stiftung*" would help distinctly toward this goal. His promise to come back again for a longer stay was greeted with rousing applause.

CANADA.

Hygienic Institute for London.—The cost of the new Hygienic Institute to be erected in London, Ont., will be $30,000. The city of London gave the land free, and the Ontario government donated $50,000, which leaves $20,000 for equipment.

A Good Showing.—A bulletin recently issued from the laboratory of the inland revenue department, Ottawa, states that out of 196 samples of bismuth subnitrate, potassium bromid and phenacetin collected from different dealers throughout Canada, not one showed any signs of adulteration.

The Cigarette Evil.—A resolution in the Dominion House of Commons proposing to prohibit the manufacture and sale of cigarettes and the importation thereof into Canada, has been discussed freely, but failed to carry. That the cigarette evil is growing in this country is apparent from the figures quoted by the member introducing the resolution. In 1896 there were consumed 89,000,000; in 1906, 277,000,000; and for the nine months (ended March 31, 1907) of the Canadian fiscal year the number stood at 275,000,000.

Communicable Diseases.—The board of health of Quebec has issued an order prohibiting sufferers with scabies and pediculosis from attending the schools of the province until cured.——There were 112 cases of smallpox in Ontario in February, with one death; scarlet fever, 406 cases, with 19 deaths; diphtheria, 211 cases, 27 deaths; measles, 185, 4 deaths; typhoid fever, 73, 27 deaths; consumption, 184, 184 deaths. The total number of deaths in the month amounted to 2,610, equivalent to an annual death rate of 14.9 to 1,000 of population.

Personal.—Dr. Samuel Johnston, chief of the anesthetic department of the Toronto General Hospital, has returned from Europe.——Dr. David A. Shirres, Montreal, is visiting in Jamaica.——Dr. J. H. O. Lambert, Winnipeg, will leave for Europe early in May.——Drs. John W. Stirling and Charles W. Vipond, Montreal, have returned from the West Indies.——Dr. James F. W. Ross, Toronto, will travel abroad during the summer.——Dr. Charles G. Gurd, Montreal, will spend the next five months in Germany.——Dr. Thomas H. Whitelaw has been appointed health officer of Edmonton Alta.——Dr. James F. Cattermole, Toronto, has been appointed assistant physician at the Institution for Feeble-Minded Children at Penetang, Ont.——Dr. W. C. Usher, Wicklow, Ont., has been appointed house physician at the Rhode Island General Hospital, Providence.——Dr. A. D. Unsworth, Hamilton, in charge of the Consumptive Sanatorium, has resigned and will do hospital work abroad for a year.——Dr. C. F. P. Abraham, Niagara Falls, Ont., is spending several months in Europe.——Dr. Robert E. Mathers, Halifax, has gone on a trip to the Mediterranean.——Dr. Thomas W. P. Flinn has been appointed by the United States government, medical inspector of immigration at the port of Halifax, vice Dr. C. Dickie Murray, deceased.——Dr. John Caven, Toronto, is recuperating in Bermuda.——Dr. R. G. Revell has been placed in charge of the new provincial laboratories at Edmonton, Alta.——Dr. J. Nisbet Gunn has returned to Vancouver, B. C., after two years abroad.——Dr. W. Henry B. Aikins, Toronto, editor of the *Canadian Practitioner and Review*, will shortly leave on his annual trip to Europe.——Dr. George R. McDonagh, Toronto, has returned from the West Indies.

Canada and Tuberculosis.—In no province in Canada has there been put forth a more strenuous fight against the inroads of tuberculosis than in British Columbia. The Anti-tuberculosis Society held its annual session March 6. The first annual report shows that a sanatorium was opened at Tranquille, B. C., Nov. 28, 1907, admitting on that date 10 patients, the number being gradually increased to 16, the limit of the institution's accommodation. Two additional cottages were hurriedly constructed early this year and now the institution accommodates 22 patients. The cost of maintaining each patient has been about $55 per month. It is expected that 4 patients will be discharged cured May 1. The receipts of the society amounted to $53,475.20 and the expenditures, $31,-259.20.——An interesting debate has recently taken place in the Ontario legislature on a bill proposed to establish county boards of health and thus prevent the spread of tuberculosis throughout the province. The need of this measure was emphasized, as several counties had an average of one death to every 11 people. From the year 1880 to 1905 there were registered 66,000 deaths from tuberculosis in the province. The particular point in the bill was compulsory notification. The consumption problem will be taken into the serious consideration of the government.——Having been successful in establishing the British Columbia Hospital for Incipient Tuberculosis, Dr. Charles J. Fagan, Victoria, the provincial health officer, is now moving in the direction for an institution for advanced cases.——The Canadian Association for the Prevention of Tuberculosis will appoint a medical traveling secretary, to organize and deliver lectures.——A deputation from the province of Alberta recently waited on the prime minister, seeking aid toward establishing a sanatorium for consumptives in that province, as it is contended that consumptives in search of health go to that province from all over Canada.——The provincial health department of Manitoba recently addressed circular letters to the profession in that province regarding the conditions prevailing as regards tuberculosis. To the 350 letters sent out 105 replies were received. The replies showed 398 cases of consumption in Manitoba and that there had been 188 deaths from the disease in 1907. The secretary of the board of health estimates that there are 796 cases in the province.——A public meeting has been held by the residents of Banff, who strongly object to the proposed establishment of a sanatorium for consumptives in the Banff National Park. It was feared that if such an institution were established there tourists would have an aversion to going to Banff.

Hospital News.—At the annual meeting of the Montreal General Hospital, held February 18, it was reported that the number of patients who passed through the wards of the hospital during 1907 was 3,347; in the out-door departments there were 50,840 consultations, or 3,858 in excess of 1906. The president gave a résumé of the work which the hospital had accomplished during the last half century. The number of indoor patients who received treatment in the wards in the year 1857 was 966, and in the outdoor department there were 4,953 consultations. During the past 50 years there have been 100,121 indoor and 1,094,222 outdoor treatments.——Both the General Hospital and the Notre Dame Hospital, Montreal, are asking the provincial government for an increased hospital grant of $10,000 each.——According to the annual report of Notre Dame Hospital, Montreal, there were 2,366 patients treated in that hospital during 1907. Of this number 1,273 left the hospital cured; 693 improved, while 245 died in the institution, of which 87 were in a dying condition when brought into the hospital.——At St. Paul's Contagious Diseases Hospital, Montreal, during 1907 there were 70 cases of diphtheria; 68 of scarlet fever; 5 cases of the two diseases combined; 68 cases of measles; one case each of measles and scarlet fever, and 4 cases of erysipelas. Of the total number 216 patients were sent to their homes cured and 16 died. During the past year the receipts of this hospital amounted to $51,605 and the disbursements to $60,850.——Dr. R. W. Bruce Smith, inspector of hospitals and charities for the province of Ontario, has had his annual report laid before the Ontario legislature.

He attacks the immigration policy of the dominion government, holding it responsible for the country, and particularly the province of Ontario, being at the present time overrun with undesirable and unsuitable immigrants. There are at present in Ontario 65 hospitals, 35 refuges, 31 orphanages, 3 homes for incurables, 2 convalescent homes, 2 Magdalen asylums, and 28 county houses of refuge, each of which shares in the government grant to such institutions. During the past hospital year there have been treated in the hospitals 45,551 patients. The total sum expended for the maintenance of these hospitals he puts down at $1,415,140.68. During the year new hospitals were opened at Niagara Falls, New Liskeard, Wingham and Goderich. In Ontario during the past year 2,667 persons died from tuberculosis. The Ontario government grant to every municipality establishing a sanatorium is $4,000 and afterward $1.50 per week is paid by the government for each patient's maintenance while in residence. In Ottawa, Kingston and Stratford, during the past year, generous provision has been made for the care and treatment of consumptives. The average daily cost per patient per diem in Ontario hospitals is $1.16.——Winnipeg city council has granted $2,500 to St. Boniface Hospital, that city.——Winnipeg is discussing hospital extension and finances in connection therewith. A by-law to raise $60,000 for the purpose of a new isolation hospital will be soon submitted to the ratepayers of that city.——A delegation of representatives from the general hospitals of Ontario waited on the Ontario government March 18 relative to an increased governmental grant. Hon. Mr. Hanna promised for the government that the grant of 20 cents per patient per diem would likely be augmented when the supplementary estimates were presented to the legislature. The delegation then organized as the Ontario Hospital Association.——The government of Manitoba has appointed a commission to investigate the hospital question in that province.——The boards of Grace and the Western Hospital, Toronto, have had a meeting preliminary to arranging for amalgamation. In a few days a meeting is to be held with the board of control of Toronto, when definite arrangements as to amalgamation will be announced. The Western Hospital has a very fine and extensive site and the new building would be erected on those grounds.——Work on the new Toronto General Hospital will be commenced during the present year.——New buildings to cost $60,000 are contemplated for the British Columbia Hospital for the Insane at New Westminster.——The board of governors of the Winnipeg General Hospital propose to the city council to submit a by-law to the ratepayers for raising $225,000 for hospital purposes; $100,000 of this amount would go toward an isolation hospital; $15,000 for a morgue; $40,000 for a building for tubercular patients, and $60,000 for a maternity and children's hospital.

FOREIGN.

Conference for Social Hygiene at Vienna.—A public meeting of the Austrian Society for Prevention of Venereal Disease was held recently at Vienna, and doctors, lawyers, mothers of families, teachers and others gave brief addresses on various phases of the subject. Jelly of Berne stated that the Swiss public schools have now an organized system of sexual pedagogics for the older children. Eulenburg of Berlin emphasized the necessity for guiding the sexual development of the young along natural lines, not striving to repress the sexual instinct in ascetic style, but by developing character and moral will power, a love of outdoor life and athletics, sports, etc. The diet is of extreme importance, especially abstention from stimulants and restriction of meat. The home and school should share the task, the home by providing broader opportunity for physical development and vigor and by satisfying the child's curiosity with answers that are true in all points but adapted to the child's comprehension. The school should cooperate by aiding to develop the body and the character as well as the mind, and by incorporating the elementary facts of sexual matters in the regular course. A blank circular has been sent out by Professor Fenger to collect data in regard to the prevalence of venereal disease in Austria.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, April 11, 1908.

International Conference on Sleeping Sickness.

The second International Conference on Sleeping Sickness met at the Foreign Office, London. The conference was convened at the suggestion of the British Government. The delegates of the seven countries represented are as follows: Germany, Dr. Robert Koch, Herr H. von Jacobs and Dr. Steudel; Spain, the Marquis de Villalobar and Dr. F. Murillo Palacios; Congo Free State, Colonel Lantonnois and Dr. van Campenhout; France, M. Le Myre de Vilers, M. Rousin, Dr. Kermorgant, Dr. Cureau and Dr. Girard; Great Britain, Lord Fitzmaurice, Sir Walter Foster, Mr. A. Walrond Clarke, Mr. H. J. Read, Sir Patrick Manson, Dr. Rose-Bradford, Sir R. Boyce and Col. D. Bruce; Italy, Prof. Rocco Santoliquido and Prof. Adolfo Cotta; Portugal, Dr. Ayres Kopke. The conference being regarded as a continuation of the preceding one, Lord Fitzmaurice again presided and cordially welcomed the delegates on behalf of the British government. The delegates then commenced the discussion of the draft general acts drawn up by the British and German governments. Prof. Rocco Santoliquido delivered a long address, setting forth the views of his government as to the steps to be taken for combating sleeping sickness. The conference terminated without being able to agree to the draft convention before it. The French and Italian representatives declared themselves unable to accept a proposal unanimously recommended at the last conference in June for the establishment of a central bureau in London. They proposed that the work should be taken over by the hygienic bureau, which a conference held in Rome in November last proposed should be established at Paris. This proposal the German plenipotentiaries declined to accept and they strongly supported the British plan for the establishment of a bureau in London. In closing the proceedings, Lord Fitzmaurice said that although agreement had been found impossible, the conference had not been useless. The communications constitute an important record of scientific views, and it is clear that much might be done between the *limitrophe* powers themselves in East Africa by separate conventions to secure uniformity of treatment of the disease, especially on the frontiers. Thereby a further step would be taken toward ultimate agreement on the larger question of the establishment of a central bureau for combating the disease.

Inaccurate Dispensing of Physicians' Prescriptions.

Dr. Teed, public analyst for the city of London, in his last report, calls attention to the fact that over 33 per cent. of the prescriptions analyzed by him were incorrect. Although this is serious, it compares well with his previous report, in which over 85 per cent. of the prescriptions were said to be inaccurately dispensed.

Cremation.

At the annual meeting of the Cremation Society, the president, Sir Charles Cameron, gave statistics showing the progress of the movement. During the first five years of the society's life the number of cremations in Great Britain was 100. During the next five years it increased to 483, and during the next five to 940. That brought them down to 1899, and for two years longer the crematorium at Woking was the only one available in Great Britain. In 1907, the number of cremations was 705, and there were thirteen crematoria at work, of which six have been provided by municipal bodies. In spite of the progress of the movement and the disappearance of prejudices, cremation in Great Britain has been confined to the wealthy and intellectual section of the population, and out of the 6,000 or 7,000 cremations which have taken place, not 2 per cent. has been performed on members of the poorer classes. In order to increase the popularity of the method, the society has reduced the fee for membership from $50 to $25, which entitles the member to cremation free of cost at any of the crematories.

Victim to the X-Rays Awarded a Pension by Government.

Mr. Hall Edwards, the *x*-ray specialist, whose sad case has been reported in THE JOURNAL, has been granted a civil list pension of $600 per annum by the government. As stated previously, his left arm has been amputated. It has now been decided that the four fingers of the right hand will have to be amputated, but it is hoped that the thumb, which so far has escaped injury, can be saved.

Action Against a Physician for Prescribing Alcohol in Bright's Disease.

An action has been brought against a physician under extraordinary circumstances. He attended a woman who died from Bright's disease. After her death her husband brought an action against the physician for malpractice, alleging that he had ordered brandy, gin and beer—most improper treatment in Bright's disease. The physician gave evidence to the effect that he prescribed a milk diet and that only on one occasion, when the patient expressed a great craving for a little beer and said that she could not do without it, did he consent to her having a glass. He would never dream of recommending brandy or gin in such a case. The jury stopped the case and gave a verdict for the physician.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Aloes.

The official aloes is the inspissated juice obtained from the leaves of various species; and in the crude state occurs as brownish masses. Aloes and all its preparations have a bitter taste.

An active principle called aloin has been obtained from aloes. While aloin is less certain in its effect than the purified aloes, it is still generally satisfactory as a laxative. The purgative principle of aloes is said to reside in a principle called emodin, which is probably set free in the alkaline secretions of the upper intestine. The presence of alkalies seems to be necessary for the activities of this purgative principle, and experience seems to teach that many times combination with iron renders the aloes more effective. If a liquid preparation of aloes were administered before meals, if the amount were small, it would act as a bitter tonic or stomachic. The amount, however, must be small, or it would cause nausea.

Aloes stimulates the activity of the muscular coat of the intestine, thus increasing peristalsis, and this action seems to be principally on the large intestine. The movements that aloes causes are soft and dark colored, and the discharges are ordinarily not watery. Aloes seems to have a predilection for irritating or congesting the rectum, and seems to cause congestion generally of the pelvic organs. For this reason it is generally inadvisable to use aloes as a laxative when there are hemorrhoids, rectal or colon irritations, or inflammation of the pelvic organs, or in pregnancy. Its stimulant action to the mucous membrane of the intestines probably reflexly increases the secretion of the liver and pancreas and probably the intestinal glands. Owing to its tendency to cause irritation sufficient to produce griping, the pain from which is referred to the umbilical region, it is generally inadvisable to use aloes in any form as a cathartic, unless it is in combination with some more active drug.

The most important use, then, of aloes is as a laxative, which means a daily dose sufficient to produce one daily movement of the bowels. As the action of aloes is slow, it taking from eight to ten hours or longer to cause a movement of the bowels, the best time to administer this drug is after supper. With some patients a small dose of aloes or aloin three times a day, after meals, is successful, but generally the one sufficient dose after supper is the best method of treating chronic constipation. As aloes or aloin alone, as above stated, is likely to produce griping for some little time before the bowels are moved, it is generally best to combine the aloes with some drug or drugs that correct such unpleasant action. The most effective drug for this purpose is belladonna, the dose of which should not be large, as there is frequently idiosyncrasy against belladonna, and if one pill or tablet of the combined aloes and belladonna does not produce satisfactory movements, the dose could not be doubled without danger of overaction from the belladonna. A small dose of strychnia added to the aloin pill or tablet is often advisable, as it causes a little more activity of the intestines. It is also often well to add a little ipecac, which also stimulates the upper part of the intestine and the secretion or excretion of bile.

The United States Pharmacopeia recognizes the following preparations of aloes:

ALOE: The preparation used is an extract from the leaves of various species of aloes, and contains aloin, a resin, a trace of gallic acid, and a volatile oil to which it owes its odor. The dose is 0.25 gram, or 4 grains.

It is, however, best to use:

ALOE PURIFICATA, or purified aloes, the dose of which is the same, viz., 0.25 gram, or 4 grains.

Purified aloes enters into the composition of the Compound Extract of Colocynth, of which it comprises 50 per cent.; into the Compound Rhubarb Pills, each of which contains 0.10 gram, or 1½ grains of aloes; and into the Compound Tincture of Benzoin, which contains 2 per cent. of aloes.

EXTRACTUM ALOES is a powder, the dose of which is 0.10 gram, or 2 grains.

TINCTURA ALOES contains 10 per cent. of aloes, and the dose is 2.5 c.c., or one-half a fluidram or one-half a teaspoonful.

TINCTURA ALOES ET MYRRHÆ is known as "Elixir Pro" (Elixir Proprietatis Paracelsi, i. e., a combination which originated with Paracelsus). This tincture contains 10 per cent. of aloes and 10 per cent. of myrrh. The dose is 2.5 c.c., or one-half a fluidram or one-half a teaspoonful.

PILULA ALOES contains 0.13 gram, or 2 grains of purified aloes. The dose is one or two pills.

PILULA ALOES ET FERRI contains 0.065 gram, or 1 grain each of purified aloes and of the dried sulphate of iron. The dose is two pills.

PILULA ALOES ET MASTICHES is known as the "Lady Webster" pill, and contains 0.13 gram, or 2 grains, of purified aloes, and 0.04 gram, or ⅔ grain of mastic. The dose is one or two pills.

PILULA ALOES ET MYRRHÆ contains 0.13 gram, or 2 grains, of purified aloes, and 0.065 gram, or 1 grain, of myrrh. The dose is one or two pills.

ALOINUM (Aloin) is the active cathartic principle of aloes, and the dose is 0.02 gram, or ⅓ of a grain.

The dose of aloes, or any of its preparations, or its active principle, is always *enough*, and no more than enough to cause one good movement a day.

The Pharmacopeia also recognizes:

PILULA LAXATIVA COMPOSITA, which contains 0.015 gram (¼ of a grain) of aloin, 0.0005 gram (1/128 of a grain) of strychnin, 0.008 gram (⅛ of a grain) of extract of belladonna leaves, 0.004 gram (1/16 of a grain) of powdered ipecac, and 0.05 gram (¾ of a grain) of powdered licorice root. The dose is one or two pills.

The National Formulary recognizes:

PILULA LAXATIVA POSTPARTUM (Barker), is a combination the formula of which is as follows:

℞.	gm. or c.c.	
Aloes purificatæ	055	gr. 5/6
Extracti colocynthidis compositi	11	gr. 1⅔
Extracti nucis vomicæ	025	or gr. 5/12
Pulveris ipecacuanhæ	005	gr. 1/12
Resinæ podophylli	005	gr. 1/12
Extracti hyoscyami	08	gr. 1¼

M. et fac pilulas.

Various combinations of aloin, belladonna, and strychnin may be obtained in tablet triturate form. Many of them contain too little aloin and too much strychnin and belladonna. A happy combination is the following formula, which contains more aloin and less strychnin and belladonna than generally found in ready-made compound aloin tablets.

℞.	gm. or c.c.	
Aloini	.02	gr. ⅓
Strychninæ sulphatis	.0015	or gr. 1/40
Ipecacuanhæ	.03	gr. ½
Extracti belladonnæ	.006	gr. 1/10

M. et fac tabletam 1.

Felons.

Dr. J. Walter Vaughan, Detroit, in the *Journal of the Michigan State Medical Society*, February, 1908, discusses the treatment of this painful affair. He prefers to use the scientific name of "paronychia," and defines it as an acute infection of the finger which usually ends in abscess, and the cause of which is always bacterial. The severity of the inflammation depends on the kind of bacteria present, the streptococcus causing more serious trouble than other pyogenic organisms.

The first essential of treatment is rest as effected by a finger splint, and it is best to splint the adjacent finger as well as the one involved. The infected finger should be bandaged with a moist dressing, and sometimes a small ice application is sufficient to inhibit the infection and effect a cure. Vaughan condemns all carbolic acid injections and applications as tending to cause necrosis. If the ice application does not inhibit the inflammation, the part should be freely incised, care being taken always to cut parallel with and never across the tendons; then a wet dressing should be applied of either a saturated solution of boric acid or a weak bichlorid of mercury solution, as 1 to 5,000 or 1 to 10,000.

Vaughan thinks that free suppuration, healthy granulations and proper healing are all hastened by Bier's hyperemic measures. He thinks hyperemia alone is of no value, but combined with free incision and wet dressings it is useful. He produces this hyperemia by applying "a broad rubber band from three to four inches wide around the arm a short distance below the elbow. Care should be taken that this elastic band is just tight enough to obstruct the free return of venous blood, but not sufficient to interfere with the arterial flow. This rubber band should not cause pain or paresthesia, nor must the arm below the bandage be cold or feel cold." It may cause, however, some edema, hence the dressing around the infected finger should not be too tight. He applies this constriction treatment for periods of from four to six hours at a time, twice a day. He finds that the white blood count will frequently show a greater number of leucocytes in the arm below the bandage than in the blood of the rest of the body. If the periosteum is involved or if there is tendon infection, these structures should be freely and quickly incised.

In palmar abscesses he applies the Bier hyperemic treatment by means of suction cups, "which should be left on from fifteen to thirty minutes at a time, and this will often hasten a cure."

While acute lymphadenitis is a frequent complication in any form of finger infection, and any involvement of the axillary glands should contraindicate the use of local hyperemia, he believes that the constriction method applied early enough may inhibit the passage of these germs to the glands above.

Alcohol.

A most efficient antiseptic wet dressing, poultice and cold pack may be made in the following manner:

Soak a sufficient amount of gauze in one part of alcohol to three parts of water. Apply to the part to be treated thoroughly wet, just short of dripping, cover with rubber tissue, and bind firmly with a bandage.

Such an application many times takes the place of an ice bag in reducing swellings from contusions, sprains, or acute inflammation, and on the other hand, will hasten the suppuration of a boil or abscess that can not be aborted as well as the old flaxseed poultice. After the abscess has been opened the corrosive sublimate dressings are, of course, more antiseptic, but are more likely to irritate the surrounding skin, unless the solution is very weak.

This alcohol dressing should be changed, or at least resoaked, every twelve hours. If the bandage is put on tightly so that no air gets under the rubber tissue, the dressing becomes a warm one, acting like a poultice. If the bandage is put on more loosely so that air gets under the rubber tissue, allowing the alcoholic solution to evaporate slowly, the dressing is a cold one, acting like an ice bag.

Resorcin.

The *New York Medical Journal*, Feb. 8, 1908, gives the following suggestions for combinations of resorcin which are quoted from *La Presse Médicale*, Jan. 11, 1908. The following is recommended "for follicular eczema, seborrhea of the scalp, pityriasis, etc.:"

℞.	gm.		
Resorcini	1	or	gr. xv
Adipis lanæ hydrosi	25		ʒvi

M. et Sig.: Apply to the diseased part at night, and wash off with soap and water in the morning.

Another combination of resorcin is ascribed to Sabouraud, as:

℞.	gm.		
Resorcini	1		
Ichthyolis	1		
Sulphuris præcipitati	1	or	āā, gr. xv
Olei cadini	5		ʒi
Adipis lanæ hydrosi	30		ʒi

M. et Sig.: Use externally as directed.

This preparation is much stronger, and should not remain too long in contact with the skin.

Unna's exfoliative resorcin paste is as follows:

℞.	gm.		
Resorcini	20		ʒv
Zinci oxidi	5	or	gr. lxxv
Kaolini	1		gr. xv
Adipis benzoinati	30		ʒi

M. et Sig.: Use externally as directed.

This paste should be allowed to remain in contact with the skin but a few minutes only.

The properties of resorcin are more or less antiseptic and stimulant, and it causes an exfoliation of the epithelial layers of the skin. When the part of the skin to be treated is protected by horny layers or protruding growths, these should be first scraped off with a bistoury or curette; then the resorcin may be applied as follows:

℞.	gm. or c.c.		
Resorcini	10	or	ʒiiss
Glycerini	100		fʒiii

M. et Sig.: Use externally.

Or the resorcin may be applied in powder, as:

℞.	gm.		
Resorcini	1		gr. xv
Bismuthi subnitratis	5	or	gr. lxxv
Talci purifacti	40		ʒx

M. et Sig.: Use externally.

Or it may be advisable for certain parts of the body to use resorcin in collodion, as:

℞.	gm. or c.c.		
Resorcini	2	or	gr. xxx
Collodii flexilis	20		fʒv

M. et Sig.: Use externally as directed.

Differentiation of Pernicious Anemia from Latent Cancer of the Stomach.—Ceconi reports in the *Riforma Medica* for July 6 an instructive case in which pernicious anemia was differentiated by the absence of leucocytosis when all signs seemed to point to latent gastric cancer. The reds numbered from 800,000 to 1,200,000; the whites 3,000 to 5,000. In two other cases, latent cancer was differentiated by the blood findings: reds 1,250,000; whites from 15,000 to 18,000; hemoglobin 20. In Strauss' case the leucocytosis reached 80,000, accompanying gastric ulcer.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO.

(*Continued from page 1206.*)

IV. THE STANDARDS OF THE COUNCIL.

The task which confronted the Council at its organization—that of sorting out the good proprietaries from the bad, the promising from the unpromising—appeared not only gigantic, but almost hopeless. But those who remember the conditions then existing will know that an attempt, at least, was imperatively necessary. It was at once realized that a final classification into good and bad was as yet out of the question. The object must be approached gradually, and in a sense tentatively. It would have been a very difficult task to select those which could be recommended as good enough to use; but it was a relatively simple task to pick out those which were so bad that they should certainly *not* be used. There are three pre-eminent, cardinal faults to which the manufacturers of proprietary remedies are prone, and which no intelligent physician should condone. These are, in the order of their seriousness: Intentional deception, secrecy as to the essentials of the composition, and exploitation to the laity. While most physicians will need no argument to convince them of the reasonableness of this statement, some may have been so influenced by the sophistries of the interested parties, that it will not be amiss to recapitulate the most evident objections to such offenses.

INTENTIONAL DECEPTION.

The individual physician can not investigate in detail every product which he desires to use. He must rely to a greater or less degree on the statements of others; and since most of the statements about proprietary products are disseminated by their manufacturers, he must rely largely on these for his information. If a manufacturer practices deception in one thing, he is apt to practice it in another. The justice of this principle is so self-evident that thus far it has been openly challenged by only one manufacturer,[1] Tyree of Washington. He said, in substance, that it is no one's business but his own if the composition of his remedy does not conform to the formula which he chooses to publish.

SECRECY.

The argument as to secrecy is somewhat more plausible, but none the less vicious. On the surface the statement seems reasonable that the practicing physician is concerned only with the actions of a remedy and not with its composition; that he does not even go to the trouble of acquainting himself with the composition of official preparations; and that, therefore, the publication of the composition of a proprietary remedy would interest no one but its imitators. In all of this there is a grain of half truth, but this is so distorted as to render it worse than misleading.

It is perfectly true that the direct concern of the practicing physician is with the results and not with the composition of a remedy. But the sophist is silent on the point that the knowledge of the composition of a remedy is essential to the complete knowledge of its action. For instance, centuries of experience have been required to build up our present knowledge of the actions of opium, of its dosage, of its indications and contraindications, of the side actions and idiosyncrasies, and of its tendency to form a habit—the knowledge, in fact, which, consciously or unconsciously, governs our everyday use of this drug. Yet the nostrum manufacturer asks us to disregard all this experience so laboriously attained and to reacquire it every time that he chooses to "invent" a "new" formula. The proposition is not only impossible, it is absurd.

It is admitted that relatively few physicians are able to give off-hand the full formula for paregoric, or hive syrup, or compound licorice powder. If they could do this, I would have a higher respect for their memory than for their judgment. But they should know—and I am convinced that the vast majority do know—the essential constituents of the official drugs which they employ, and also the approximate proportion of the dangerous ingredients; and they know where to find the other information whenever they may need it. The physician has no need to inquire into the working formula or into the blending and proportion of the flavors, and the Council does not ask for this information. These data furnish the best protection against fraudulent imitators.

The most skilful pharmacist could not compound a successful copy of any proprietary preparation from the information demanded by the Council, except in the case of patented preparations—and in these cases the working formula is a matter of public record. How unfounded is the pretended fear that the publication of the essential ingredients would lead to imitation, is shown by the fact that, so far as I know, no attempt has been made, since the establishment of the Council, to imitate any of the products which it has described. The policy of secrecy is, therefore, not necessary for legitimate protection; on the contrary, it is often but a device to deceive. It is a fairly safe inference that the manufacturer who is anxious to conceal essential facts is more anxious to hide them from the profession than from his competitors. Either his remedy contains something, like acetanilid, for instance, which physicians do not care to use indiscriminately, or a knowledge of the true composition would convince medical men that the preparation could not possibly possess the wonderful properties with which it has been endowed by its promoters.

EXPLOITATION TO THE LAITY.

As to advertising to the public, the absurdity of the profession fighting the evils of self-medication with one hand, while encouraging it with the other, is self-evident. The absurdity is so self-evident, that no physician of any standing would for a moment put up with such practices, if he knew them; and few nostrum makers have the impudence to advertise their wares openly and simultaneously, both to physicians and to the lay public. Unfortunately, however, "for ways that are dark and tricks that are vain," the nostrum exploiter is peculiar. Few physicians realize how, and how much, they have been "worked." Probably more remedies have been held up by the Council because of the skilful way in which a certain class of manufacturers market products so as to advertise them surreptitiously to the public, than for all other causes combined. It is time that the eyes of the physician also should be opened—but that story is too long for the present chapter.

It seems very clear to me that no remedy is worthy of further consideration by the medical profession, until it is cleared of these three objections. No honest manufacturer can take exception to these principles. They have been the touchstone by which the Council has effected the preliminary classification of the proprietary remedies. They are the foundation of the rules which have been adopted by the Council.

(*To be continued.*)

1. THE JOURNAL A. M. A., Oct. 20, 1906, p. 1316.

Improved Yellow Oxid of Mercury Ointment.

Dr. Talbot R. Chambers, Jersey City, N. J., suggests that the following modification of the official method for preparation of the yellow oxid of mercury ointment secures a non-irritating preparation. The pharmacopeial method is followed,

with the exception that the yellow mercuric oxid is freshly prepared and, while still moist, is incorporated with anhydrous wool fat and petrolatum. The mercuric oxid is thus secured in an amorphous condition, which, theoretically, should be less painful than when the granules are present. Practically, Dr. Chambers is able to record that individuals who found the old formula too painful to use, register no objection to the improved make. In addition, it will keep indefinitely.

NOSTRUM ADVERTISEMENTS IN THE RELIGIOUS PRESS.

The "Baptist Flag" and Its Gallery of Frauds.

We have had occasion at various times[1] to call attention to the nostrum advertisements carried by religious papers. In the last two or three years there has been a marked improvement in the class of advertising found in these journals, and more than once we have commented on this fact. That there is still room for improvement is evident from a copy of the Fulton (Ky.) *Baptist Flag* sent us by a correspondent. It would be hard to find in a sixteen-page publication a more complete list of medical frauds of all kinds—from the ridiculous to the indecent, from the dangerous to the worthless—than is to be found in this paper.

AN EXAMPLE OF THE OLD RÉGIME.

Since the Great American Fraud articles appeared, most religious publications have dropped the grosser types of medical fakes, and a few have dropped all "patent medicine" advertisements. Not so with the *Baptist Flag*. Here we find the medicated booze "Swamp Root" put out by "Dr." Kilmer, and that cruelest and most mendacious of frauds, the "Combination Oil Cure for Cancer," marketed by the Uriah Heep of quackdom—"Dr." Bye. The notorious Blosser offers a free trial package of his catarrh "remedy;" "Dr." F. G. Curts goes one better and sends his "50 cent nasal douche, five days' treatment and illustrated book—all free," while Mr. Cheney, of "red clause" fame, caps all by making believe that he will give "one hundred dollars reward for any case of catarrh that can not be cured by Hall's Catarrh Cure." Dr. W. Bailey Williams of Rhea Springs, Tenn., advertises that his practice is "limited to chronic diseases—Dropsy, Asthma, Catarrh, Cancer and diseases of women." His specialty is "removal of cancer without the knife," his fees for which "range from $25.00 to $500.00." As a clincher he gives "free service to the regular ministry." This is probably a safe offer, as it is unlikely that a "regular" minister would accept the services of an irregular physician. "Anti-Pain Pills," "Capudine," "Tetterine," and "Merit Blood Tablets" are some of the other nostrums to be found in this strange mixture of piety and fraud.

EDITORIALS VERSUS ADVERTISEMENTS.

In the "Home Circle" department is an editorial descanting on the need of clean reading for the young. A warning is sounded against those publications which "taint the imagination and allure the weak and unguarded from the paths of innocence." An advertisement on another page is addressed, presumably, to those who have been thus tainted and allured. It is headed:

"WEAK MAN RECEIPT FREE"

and goes on to offer a free prescription "in a plain sealed envelope" to those who are suffering from the results of "excesses, dissipation, unnatural drains or the follies of youth." On the same page is the advertisement of a philanthropic lady hailing from Kokomo, Ind., who has sent, absolutely free, to more than a million suffering women "a 50 cent box" of a "simple home remedy, also a book with explanatory illustrations showing why women suffer and how they can easily cure themselves at home without the aid of a physician."

This sample of religious journalism belongs to a type now, happily, nearly extinct. From the frenzied appeal to its subscribers to pay up back subscriptions so that it may not be debarred from second-class mailing privileges, we imagine the proprietors see the "handwriting on the wall." Such publications are a discredit to the high cause they are supposed to represent.

1. THE JOURNAL, April 21, 1906, 1221; Feb. 2, 1907, 435; Feb. 9, 1907, 534; July 6, 1907, 53; Aug. 10, 1907, 510; Nov. 23, 1907, 1790.

ANTIKAMNIA AND THE PUBLIC.

Samples, Form Letters and "Prescriptions" Sent to the Laity.

To the Editor:—The enclosed "literature" is being sent broadcast to the laity by the Antikamnia people and still a great many of the physicians throughout the country are prescribing the preparation thus advertised. Will the time ever come when the medical fraternity will awaken to the fact that it has been humbugged by a great many manufacturing concerns? I certainly hope so.

J. W. DUVAL, M.D., Wichita Falls, Texas.

COMMENT:—The "literature" referred to by our correspondent consists of a form letter and a small pamphlet. The letter reads as follows:

Dear Mr. ————:

Do you ever suffer pain? If so, try Antikamnia Tablets; Sample enclosed. Your druggist will supply them in any quantity (10 cents worth or more), also in our regular "Vest-Pocket-Boxes." Sincerely yours,

THE ANTIKAMNIA CHEMICAL COMPANY.

The pamphlet accompanying the letter is entitled "Practical Prescriptions," and contains a list of diseases and morbid states arranged alphabetically from "Alcoholism," "Asthma" and "Backache" to "Wind," "Women's Pains" and "Worry." For the one hundred and twenty-two conditions listed, "Antikamnia," "Antikamnia and Codein" or "Laxative Antikamnia and Quinin" are prescribed, demonstrating that the "prescriptions" are more "practical" than scientific.

In many respects the methods of the proprietors of "headache powders" and "anti-pain pills" are less offensive to one's sense of professional decency than the course pursued by the Antikamnia people. The former have at least never recommended their products as "ethical proprietaries;" they have not used medical men as their unpaid agents; the claims made for their products have been no more exaggerated; and they have not found it necessary, from the requirements of the Food and Drugs Act, to substitute acetphenetidin for acetanilid to avoid giving the lie to their former claims.

As to the query propounded by our correspondent: We are optimistic enough to believe that the time he longs for is already here. The fact that the proprietors of nostrums of the Antikamnia type are finding it necessary to advertise to the laity is, in itself, evidence of the diminishing demand for such products on the part of the medical profession.

PANKREON.

Report by the Council on Pharmacy and Chemistry, with Comments.

Pankreon, manufactured by the *Chemische Fabrik Rhenania, A.-G., Aachen*, Germany, is sold in the United States by Merck & Co., New York. It is described as a combination of pancreatin with tannic acid. While pancreatin, when administered as such, is destroyed by the action of the gastric juice before it reaches the intestinal canal in which it exerts its specific action, pankreon, it is claimed, is not affected by the gastric fluid, but dissolves in the alkaline intestinal fluids and rapidly develops the action of the pancreatic ferment. If this were true it would be superior to pancreatin.

Pankreon, having been proposed for inclusion in "New and Non-Official Remedies," was assigned to a subcommittee for report. This subcommittee made experiments to determine whether or not pankreon is unaffected by peptic digestion as claimed. The result of the investigations indicated that the compound is promptly digested by pepsin in acid solution, and hence would be rendered inert before it could reach the alkaline intestinal fluid. The subcommittee recommended that its findings be submitted to the manufacturer through the American agent and that, in the meantime, the further consideration of pankreon be postponed. The report having been adopted by the Council, the findings, in accordance with the recommenda-

tion, were forwarded by the American agents to the manufacturer. The manufacturer's reply, having been transmitted to the subcommittee, it presented to the Council the following supplemental report:

"The findings of the referee contained in the report were submitted to Merck & Co. In reply Merck & Co. submit the answer of the *Fabrik Rhenania*, which does not show any inclination to consider the objections made to the product by the subcommittee. Merck & Co. can do nothing in the matter. Your referee recommends that the product be refused recognition."

This report was adopted by the Council and publication of the following directed:

Pankreon is a grayish powder, said to be prepared by the action of tannin on pancreatic material, claimed to contain 10 per cent. of tannin. It is recommended in from four to eight-grain doses for pancreatic affections, disturbances of digestion, diarrheas, dysentery, marasmus, colitis, achylia, nervous dyspepsia, gastritis hyperemesis, jaundice, etc. It is said to be a strong tryptolytic, amylolytic and emulsifiant.

It is repeatedly asserted in the advertising literature that pankreon is "unalterable by the gastric juice," that it is capable of passing through the stomach unmodified, and its medicinal virtue is said to depend largely on this fact. Again it is claimed that: "The characteristic difference that is presented in this newer product is its resistance to the ordinary process of digestion, so that the chief objection to the use of fresh pancreatic substance—which was that it was so readily digested in the stomach—has been largely done away with, and the early conclusions of Langley regarding the destruction of enzymes in the stomach must be modified so far as pankreon is concerned."

Investigation, however, fails to substantiate these statements. On the contrary, it is clearly shown that the enzymic power of pankreon is practically destroyed by subjecting it to the action of an artificial gastric juice. Pankreon was found to digest about forty times its weight of starch in a neutral solution in ten minutes at 40 C. Several mixtures of pankreon and pepsin of proper strength were prepared in a 0.1 per cent. of hydrochloric acid solution and allowed to stand at 40 C. for one-half hour. It was then made faintly alkaline, and various quantities added to different tubes containing 50 c.c. of a 2 per cent. starch paste, and allowed to stand for ten minutes at 40 C. Very little, if any, of the starch was converted after standing the above time. Various other methods were tried to determine whether or not pepsin and acid affected the enzymic action of pankreon. In every case it was found that the action of pankreon was either destroyed or markedly impaired after being in contact with acid and pepsin for one-half hour or more.

If so marked an effect is produced by the action of artificial gastric juice, it is but reasonable to suppose that the same result would be produced even more promptly and to a more marked degree in the stomach under the influence of the normal gastric fluid. The manufacturer distinctly admits that the enzymic activity of the preparation is diminished by the continued action of a pepsin hydrochloric acid solution, but denies that it is completely destroyed physiologically, in the following sentence: *"Wir geben ja ausdrücklich an, dass bei langdauernder Einwirkung von Pepsin-salzsäure eine Schwächung der Wirkung erfolgt, jedoch ist Vernichtung unter physiolog. Verhältnissen ausgeschlossen."* This statement only tends to substantiate the results obtained in the laboratory. Investigation shows that pankreon does not to any appreciable extent "pass through the stomach unmodified" and that there are good reasons for believing that its enzymic power is completely destroyed by the normal gastric juice. If the product is altered during its passage through the stomach it evidently can not have the physiologic action attributed to it in the advertising matter accompanying the package, nor can it produce many of the therapeutic effects claimed for it by its sponsors.

W. A. PUCKNER, Secretary.

COMMENTS.

The above results serve to emphasize the need of impartial investigation of proprietary products even when put out by reliable manufacturers. This preparation has been largely used in Germany and has been recommended by reputable authors as an agent for replacing the deficient secretion of the pancreas. It has even been proposed to use the administration of pankreon as a means of determining whether the appearance of free fat and undigested muscle fiber in the stools was due to a deficiency in the function of the pancreas or to some other cause. It was reasoned that if the deficiency was due to imperfect functioning of the pancreas it would be supplemented by the action of pankreon and the undigested fat and muscle fiber would disappear from the stools. Consequently it was thought that if pankreon produced a removal of these undigested residues from the feces the evidence was obtained that the abnormal phenomenon had been due to disease of the pancreas.

It is possible that some of the good results attributed to the digestive action of the pankreon were in reality due to the tannin which it contained. This by limiting peristalsis might promote more perfect digestion by giving more time for the natural digestive ferments to act. If this is the method in which it acts it should be an instructive lesson to therapeutists to seek for the possibilities of our well-known remedies without waiting for them to be revealed to us by the investigation of some highly vaunted synthetic which contains their active principle.

PHENO-BROMATE.

Its Composition Before and After the Food and Drugs Act.

The exigencies of the Food and Drugs Act have forced one of the lesser lights in the nostrum firmament, Antikamniaward. Pheno-Bromate was advertised *before* the act went into effect as a "synthetic combination of derivations of the phenetidin and bromid groups." Analysis[1] indicated that it was, in fact, merely a mixture of about equal parts of acetanilid and potassium bromid! The label on this preparation *since* the act became operative states that it is "a perfect combination of a phenol and a bromin derivative containing 282 grains of acetphenetidin, U. S. P., per ounce." What a boon it was to mendacious manufacturers that the patent rights on phenacetin expired before the Food and Drugs Act went into effect! How otherwise would the acetanilid-scared public have been cajoled into buying preparations containing antipyretics?

In view of the above facts it is not surprising that a correspondent writes to the *Druggists Circular* plaintively inquiring, "What is a 'bromin derivative'?" and suggesting that the doctors who prescribe such a "derivative" (Pheno-Bromate) should be told "what a sweet bunch of suckers they are." The inelegance of diction exhibited by this writer is equaled only by the pertinence of his suggestion.

Correspondence

Cure of Stammering.

NEW YORK CITY, April 1, 1908.

To the Editor:—Referring to the editorial on the "Melody Cure of Stammering," in THE JOURNAL, March 28, I beg to offer the following idea as to the cause of stammering and a treatment which is based on it.

In THE JOURNAL, Dec. 1, 1906, there appeared a paper by me entitled "Types of Congenital Symbol Amblyopia." In that paper I recited the history of two boys who had experienced great difficulty in learning to read, referred to the original observation of Pringle Morgan of England on this subject, and set forth the idea that this congenital defect was probably one of a number of congenital defects of a similar nature. I referred also to the inability of many otherwise intelligent children who could not learn mathematics easily, and described the defect as figure amblyopia. The two forms I grouped under the heading of symbol amblyopia. I assumed that the lesion is probably a central one, that it is in the nature of a congenital organic defect, and that in the right-handed it probably lies on the left side in the angular gyrus. I suggested further that the basis of treatment should be repetition, after these individuals had been segregated and classified. I offered also the tentative suggestion that inasmuch as it is universally admitted that in right-handed people the centers of speech and allied

1. THE JOURNAL, July 14, 1906, 125.

acts lie on the left side of the brain, left-handedness be taught and established in such individuals as showed symbol amblyopia.

I believe that stammering is simply the result of imperfect coordination, caused by disconnected and erratic discharges from the cortex; that the lesion is organic; that it is congenital; and that those persons who have been apparently cured are not really cured, as a matter of fact. It is well known that however much improvement has taken place in a given case, it has always been the result of long-continued treatment, and that the basis of that treatment is repetition of effort on the part of the subject to control the defect in the manner which he himself has adoped or others have suggested. It is also well known that however much better these individuals may have become, they relapse again into their original condition, temporarily, at least, when under great excitement or psychic shock.

I am convinced that stammering should be classed under the congenital defects of the speech centers, and that it is allied to symbol amblyopia.

I suggest, therefore, that in such persons it is reasonable to attempt to transfer the speech center to the opposite side of the brain.

Now it is in the highest degree unlikely that a congenital defect should occur on both sides of the brain and in the same place, so that if children who stutter could be rendered left-handed as soon as the defect is discovered, it might be remedied in early life. Experience should prove the value of the suggestion. As a matter of interest, I may cite the case of my own little boy of 6 years. He was originally inclined to be left-handed, and as soon as this inclination was noted his mother—who is practically ambidextrous—commenced to correct it. Very soon afterward we observed that he began to stammer badly, and he continued to have periods of stammering for two years. He can still use his left hand easily, and appears to prefer to use it at times, but in general he is now right-handed. Since he has acquired right-handedness his stammering has ceased.

This suggestion is made in the hope that others will put the treatment into practice. As stated, it should be started in extreme youth, as soon as stammering is observed, but, of course, there could be no objection to trying it also later in life.

Incidentally there has never been a postmortem corroboration of the assumed congenital lesion in symbol amblyopia.

J. H. CLAIBORNE, M.D.

The Pittsburg Housing Situation.

PITTSBURG, PA., April 1, 1908.

To the Editor:—I beg to acknowledge with appreciation your editorial in a recent issue[1] on the Pittsburg housing situation. You rightly indicate that there are three prime factors in evil housing conditions—the landlord, the tenant and the health inspector. I feel, however, that your editorial does not do justice to Dr. James F. Edwards, superintendent of the local bureau of health. This bureau is not an independent department of the Pittsburg city government. It falls under the department of public safety. Two-thirds of its appropriations are engrossed by a contract system of garbage removal, over which the superintendent has no control. Since 1899 there has been no published report of the bureau of health. Previous superintendents of the bureau have not been physicians. I state these things to you to indicate the large work of reorganization which Dr. Edwards has had to undertake. In facing the conditions he has shown rare spirit and no mean measure of accomplishment, even with an inadequate staff. The housing movement is a case in point. He has removed hundreds of privy vaults in the city proper. He placed every facility of his department at our disposal in getting together the report on housing for the Pittsburg Survey, to which you referred.

Our findings were used in support of an ordinance introduced by the chamber of commerce, which was in line with Dr. Edwards' recommendations, and which has just passed. This ordinance will double the force of tenement-house inspectors and for the first time will give the superintendent of health an effective staff for this branch of his work. Reform in this direction has been energetically advocated by Dr. Edwards before councilmanic committees, at public meetings, in the press, and in cooperation with special committees of the Civic Club, Chamber of Commerce, Kingsley House and other local agencies, and in enlisting the services of such outside experts as Lawrence Veiller, secretary of the famous Housing Commission of 1900 of Greater New York.

The local health inspector is in truth becoming an important factor in the Pittsburg housing situation—a factor for good.

PAUL U. KELLOGG, Director, Pittsburg Survey.

1. THE JOURNAL A. M. A., March 28, 1908, p. 1040.

An Arraignment of Surgery?

NEW YORK, April 1, 1908.

To the Editor:—In THE JOURNAL, March 28, page 1025, last paragraph, Dr. Bayard Holmes, professor of surgery in the University of Illinois, describes the hospital requirements of modern surgery. He says:

> All that the surgeon cares for is a room for his patient to occupy during the three or four weeks she is recovering from his incisions. She may then go home and get well or lead a life of invalidism, as it happens. To cure his patient and restore her to a life of usefulness and happiness is not the modern surgeon's conception of duty. He looks on the invalid as an incumbrance to his hospital, and all the essentials of recovery as unnecessary expense and space-consuming impedimenta.

If the professor is not humorously tempting some of us to "bite" in the hope that his paper—otherwise an excellent one—may be more widely noted, then I am indeed sorry for him. I have never met a "modern surgeon" who did not look on it as his highest privilege as well as his duty to do everything in his power to restore his patients, male as well as female, to that state of happiness which the sick always regard as the possession of the healthy. The conscience of the surgeon must be truly callous, if a so-called "operative" recovery satisfies him. To put it very mildly, Dr. Holmes must have come in contact with some very unusual characters in the noble profession of medicine or even of "modern aggressive surgery," to generalize in such a shocking manner.

Let us be glad for the professor's peace of mind that he is evidently sufficiently pharisaical to be grateful that he is not as other surgeons are. But, probably all this preachment is for naught and Dr. Holmes has after all "gotten a rise" out of me.

HOWARD LILIENTHAL.

Hysteria in Italians.

DETROIT, MICH., April 2, 1908.

To the Editor:—I was very much interested in Dr. Baff's article, "Hysteria in Italians." There are a few Italians four blocks from my residence and I can bear out the doctor's statement that the Latin races are prone to hysteria. They seem to me to be lacking in "sand." A hypodermatic injection of apomorphin will (in all cases) quickly put to flight any case of hysteria, let it be an Italian, a vexed prostitute or high-strung woman. About ten years ago a woman was picked up on the street unconscious (sic), taken to the hospital, and her most remarkable, unprecedented case of twenty-four hours' "unconsciousness" commented on by the lay press. It happened a few times; on the last occasion I was called to see her, and one hypodermic of apomorphin completely cured the "unconsciousness." By the way, apomorphin hypodermatically will often abort an asthmatic attack. But for hysteria a "jab of apomorphin" is the sheet anchor.

E. T. MILLIGAN.

Sign of Typhoid.—Giovanni confirms the diagnostic importance of the yellow tint of the lines and folds in the palms and sole of the feet in beginning typhoid fever. He found it one of the earliest signs, and the more pronounced, the severer the typhoid infection proved. In extremely severe cases the yellow discoloration extended up over the sides and back of the fingers and toes. His communication was published in the *Riforma medica*, January 15.

Association News

THE MEETING PLACES.

Where the Sections Will Meet at the Chicago Session in June.

The following is a list of meeting places for the Sections as at present arranged

PRACTICE OF MEDICINE—Sinai Temple, Twenty-first Street and Indiana Avenue.
OBSTETRICS AND DISEASES OF WOMEN—Second Presbyterian Church, Twentieth Street and Michigan Avenue.
SURGERY AND ANATOMY—Orchestra Hall, 169 Michigan Avenue.
HYGIENE AND SANITARY SCIENCE—Second Presbyterian Church, upstairs, Twentieth Street and Michigan Avenue.
OPHTHALMOLOGY—First Presbyterian Church, Twenty-first Street and Indiana Avenue.
DISEASES OF CHILDREN—Second Presbyterian Church, Chapel, Twentieth Street and Michigan Avenue.
STOMATOLOGY—First Regiment Armory, Sixteenth Street and Michigan Avenue.
NERVOUS AND MENTAL DISEASES—Calumet Club, Twentieth Street and Michigan Avenue.
CUTANEOUS MEDICINE AND SURGERY—Grace Episcopal Church Parish House, Fourteenth Street and Wabash Avenue.
LARYNGOLOGY AND OTOLOGY—Sinai Temple, Twenty-first Street and Indiana Avenue.
PHARMACOLOGY AND THERAPEUTICS—First Presbyterian Church, Twenty-first Street and Indiana Avenue.
PATHOLOGY AND PHYSIOLOGY—First Regiment Armory, Sixteenth Street and Michigan Avenue.
HOUSE OF DELEGATES—First Regiment Armory, Sixteenth Street and Michigan Avenue.

On Wednesday afternoon the Sections on the Practice of Medicine and on Pathology and Physiology will have a joint meeting in the meeting place of the former, and on the same afternoon the Section on Stomatology will occupy the room in the Armory otherwise used by the Section on Pathology and Physiology.

HUGH T. PATRICK,
Chairman Committee on Halls and Meeting Places.

Hotels for Chicago Session.

Those desirous of securing definite hotel accommodations for the next annual session in Chicago, June 2-5, should communicate at once, either with the desired hotel or with Dr. L. L. McArthur, chairman of the Hotels Committee, 100 State Street, Chicago. A list of the hotels, with locations and rates, was given in THE JOURNAL, March 28, page 1058. This list, as furnished us, contained a misstatement concerning the rates of the Victoria Hotel. A correct announcement is as follows:

VICTORIA HOTEL, Michigan Boulevard and Van Buren Street; 200 rooms; can take 300; rates, for one person, $1.50 up; with bath, $2.50 to $4; two in a room, $3 to $4; with bath, $4 to $6; double room, with two beds, two persons, $2 each; four persons, $1.25 each; with bath, two persons, $2.50 each, four persons, $1.50 each.

Miscellany

Protein Nomenclature.

A joint committee of the American Society of Biological Chemists and the American Physiological Society, consisting of Russell H. Chittenden, Otto Folin, William J. Gies, Waldemar Koch, T. B. Osborne, P. A. Levene, J. A. Mandel, A. P. Mathews and Lafayette B. Mendel, appointed for the purpose, submitted at the annual meeting in Chicago last December the following recommendations on protein nomenclature:[1]

Since a chemical basis for the nomenclature of the proteins at present is not possible, it seemed important to recommend few changes in the names and definitions of generally accepted groups, even though in many cases these are not wholly satisfactory. The recommendations, which were adopted by the societies, are as follows:

First, the word proteid should be abandoned.

Second, the word protein should designate that group of substances which consists, so far as at present is known, essentially of combinations of *a*-amino-acids and their derivatives, e. g., *a*-amino-acetic acid or glycocoll; *a*-amino-propionic acid or alanine; phenyl-*a*-amino propionic acid or phenylalanine; guanidine-amino-valerianic acid or arginine, etc., and are, therefore, essentially polypeptides.

Third, that the following terms be used to designate the various groups of proteins.

1. Science, April 3, 1908.

I. THE SIMPLE PROTEINS.

Protein substances which yield only *a*-amino acids or their derivatives on hydrolysis.

Although no means are at present available whereby the chemical individuality of any protein can be established, a number of simple proteins have been isolated from animal and vegetable tissues which have been so well characterized by constancy of ultimate composition and uniformity of physical properties that they may be treated as chemical individuals until further knowledge makes it possible to characterize them more definitely.

The various groups of simple proteins may be designated as follows:

(*a*) *Albumins.*—Simple proteins soluble in pure water and coagulable by heat.

(*b*) *Globulins.*—Simple proteins insoluble in pure water, but soluble in neutral solutions of salts of strong bases with strong acids.[1]

(*c*) *Glutelins.*—Simple proteins insoluble in all neutral solvents, but readily soluble in very dilute acids and alkalies.[2]

(*d*) *Alcohol-soluble proteins.*—Simple proteins soluble in relatively strong alcohol (from 70 to 80 per cent.), but insoluble in water, absolute alcohol, and other neutral solvents.[3]

(*e*) *Albuminoids.*—Simple proteins which possess essentially the same chemical structure as the other proteins, but are characterized by great insolubility in all neutral solvents.[4]

(*f*) *Histones.*—Soluble in water and insoluble in very dilute ammonia and, in the absence of ammonium salts, insoluble even in an excess of ammonia; yield precipitates with solutions of other proteins and a coagulum on heating which is easily soluble in very dilute acids. On hydrolysis they yield a large number of amino-acids among which the basic ones predominate.

(*g*) *Protamines.*—Simpler polypeptides than the proteins included in the preceding groups. They are soluble in water, uncoagulable by heat, have the property of precipitating aqueous solutions of other proteins, possess strong basic properties and form stable salts with strong mineral acids. They yield comparatively few amino-acids, among which the basic amino-acids greatly predominate.

II. CONJUGATED PROTEINS.

Substances which contain the protein molecule united to some other molecule or molecules otherwise than as a salt.

(*a*) *Nucleoproteins.*—Compounds of one or more protein molecules with nucleic acid.

(*b*) *Glycoproteins.*—Compounds of the protein molecule with a substance or substances containing a carbohydrate group other than a nucleic acid.

(*c*) *Phosphoproteins.*—Compounds of the protein molecule with some, as yet undefined, phosphorus containing substance other than a nucleic acid or lecithins.[5]

(*d*) *Hemoglobins.*—Compounds of the protein molecule with hematin or some similar substance.

(*e*) *Lecithoproteins.*—Compounds of the protein molecule with lecithins (lecithans, phosphatides).

III. DERIVED PROTEINS.

1. PRIMARY PROTEIN DERIVATIVES.—Derivatives of the protein molecule apparently formed through hydrolytic changes which involve only slight alterations of the protein molecule.

(*a*) *Proteans.*—Insoluble products which apparently result from the incipient action of water, very dilute acids or enzymes.

(*b*) *Metaproteins.*—Products of the further action of acids and alkalies whereby the molecule is so far altered as to form products soluble in very weak acids and alkalies, but insoluble in neutral fluids.

This group will thus include the familiar "acid proteins" and "alkali proteins," not the salts of proteins with acids.

1. The precipitation limits with ammonium sulphate should not be made a basis for distinguishing the albumins from the globulins.

2. Such substances occur in abundance in the seeds of cereals and no doubt represent a well-defined natural group of simple proteins.

3. The sub-classes defined (a, b, c, d) are exemplified by proteins obtained from both plants and animals. The use of appropriate prefixes will suffice to indicate the origin of the compounds, e. g., ovoglobulin, myoalbumin, etc.

4. These form the principal organic constituents of the skeletal structure of animals and also their external covering and its appendages. This definition does not provide for gelatin which is, however, an artificial derivative of collagen.

5. The accumulated chemical evidence distinctly points to the propriety of classifying the phosphoproteins as conjugated compounds, i. e., they are possibly esters of some phosphoric acid or acids and protein.

(*c*) *Coagulated Proteins.*—Insoluble products which result from (1) the action of heat on their solutions, or (2) the action of alcohols on the protein.

2. SECONDARY PROTEIN DERIVATIVES.[6]—Products of the further hydrolytic cleavage of the protein molecule.

(*a*) *Proteoses.*—Soluble in water, uncoagulated by heat, and precipitated by saturating their solutions with ammonium—or zinc sulphate.[7]

(*b*) *Peptones.*—Soluble in water, uncoagulated by heat, but not precipitated by saturating their solutions with ammonium sulphate.[8]

(*c*) *Peptides.*—Definitely characterized combinations of two or more amino-acids, the carboxyl group of one being united with the amino group of the other with the elimination of a molecule of water.[9]

Hemorrhage into the Pons as Cause of Death in Eclampsia.—Carver and Fairbairn, in the *Proceedings of the Royal Society of Medicine*, report a case diagnosed as eclampsia with coma in which the immediate cause of death was hemorrhage into the pons varolii, which remained unsuspected till revealed at autopsy. The patient was in the outdoor maternity district; she was a primigravida, aged 24, about five months pregnant. March 23 she reported that she was suffering from vague pains, and one of the authors saw her. The mental condition was fairly good. She gave a history of loss of appetite, sleeplessness, headache and spots before the eyes for two or three days. There had been no vomiting and no convulsions. She had noticed nothing abnormal about the urine, and considered that she had passed about the usual amount. There was edema of the whole body, which was said to have been present about a week. The uterus reached the umbilicus and the fetal heart was audible. Temperature was normal, pulse rate, 84; the arterial tension was considerably raised. A catheter specimen of urine was obtained and was found to contain so much albumin that it became solid on boiling; the guaiacum test failed to show any blood. The patient was given a saline and told to stay in bed; arrangements were made to take her to the hospital on the following morning. During the night her husband found her unconscious on the floor. When seen at 2 a. m. she was cyanosed and respiration was shallow and inclined to be of the Cheyne-Stokes type. She was at once removed to the hospital where the pulse was found to be weaker and the respiration more pronouncedly of the Cheynes-Stokes type. She was bled from the arm and saline solution injected, but without any improvement. The cervix was forcibly dilated and the child delivered by version; it was living and gasped a few times. The patient died at 7:15 a. m., without having regained consciousness. Autopsy showed extensive hemorrhage into the substance of the pons, which was greatly torn and disorganized. The hemorrhage passed for a short distance into the crura cerebri. The rest of the brain was normal. There was no evidence of disease of the cerebral arteries, nor was there any sign of disease in any other arteries of the body. The kidney changes were slight, but of the degenerative type usually found in eclampsia, and the amount of renal disease was too trifling to admit of its being the primary factor in the case. The changes in the liver were not distinctive of those found in the toxemia of pregnancy, yet the postmortem evidence is on the whole consistent with the interpretation of the case.

Prophylaxis of Stuttering.—H. E. Knopf urges the importance of this subject in the *Kinderarzt*, February. There is inevitably a neuropathic predisposition, he says, for the coordination neurosis causing the stuttering. An acute infectious disease or some trauma may be the exciting cause, and imitation is an unusually frequent factor. One of his little patients began to stutter after he had attended a play where one of the actors stuttered. The cases of assumed "inherited stuttering" are due really to imitation plus the neuropathic tendency, and such patients are generally the hardest to cure, frequent relapses following the apparent cure as the child is exposed anew to the opportunity for imitation. If the child's stammering is noticed and he is pitied or scolded for it the habit is soon permanently established. In treatment, Gutzmann's method gives the best results, Knopf says, showing the child by word and example the normal movements of respiration, formation of words and articulation, and the points in which he is defective. A child beginning to stutter should be removed at once from a neuropathic environment. If he can not be sent to some sensible relatives, then every measure in psychic, physical and pharmaceutic therapeutics should be brought into play to act on the neuropathic predisposition. Everything liable to hinder free respiration, flatulence and constipation should be combated, adenoid growths and other hindrances should be removed, and abnormal position of teeth corrected. Masturbation plays an important part in the origin of stuttering in childhood and youth. Especial attention should be paid to incipient stuttering during convalescence from acute infectious diseases. Stuttering servants should not be hired, and the child should be kept away from stuttering companions. He knows of instances where teachers qualified themselves especially and cured their stuttering pupils of the neurosis. Other teachers sometimes manage to render it permanent, undoing the effect of medical treatment. It is better sometimes to keep the children transiently out of school. Kindergarten teachers and nursemaids, as well as parents and teachers, should have the nature of stuttering explained to them, and the means to combat it. The children sometimes outgrow the neurosis and it subsides spontaneously, but this occurs so rarely that it can not be counted on.

Spinal Anesthesia.—At a meeting of the Paris Surgical Society, March 4, various members related their experiences with spinal anesthesia. Hartmann reported two fatalities which he attributes to it. One was a patient undergoing transvesical prostatectomy. The pelvis was raised to slip a cushion underneath, and at this moment the patient collapsed and died seven hours later. The second patient was a woman with volvulus; during the operation the pelvis was raised and immediate fatal collapse followed. He thinks that diffusion of the anesthetic to the medulla from the raising of the pelvis was undoubtedly responsible. Le Dentu reported complete paralysis of the muscles of the shoulder for three weeks in one case and paralysis of the bladder in another, both to be ascribed to the spinal anesthesia. Rochard reported a case of oculomotor paralysis and one each of incontinence of urine and one of feces. He knows of two fatalities which have never been published and thinks that they are probably more numerous than would appear from the literature. Schwartz has had several cases of retention of urine. Reynier reported a case of syncopal collapse in a patient the evening after an operation under spinal anesthesia. She revived under prompt artificial respiration. In another case unbearable pains in the legs, commencing a week after the operation, persisted for a week. In another case a fracture of the malleolus had been reduced under spinal anesthesia without mishap. A month later the man was affected with complete paralysis of the arms, legs and back of the neck. He could not hold his head erect or turn it; the head dropped back whenever it was passively lifted. He was like a jumping-jack whose strings have all been cut. As there were no sensory disturbances, hysteria was out of the question. The paralysis gradually subsided and he left the hospital in apparently normal condition at the end of two weeks. Reynier has also heard complaints from patients that they could not walk so well as before their operation under spinal anesthesia. Guinard was one of the first and most enthusiastic adherents of spinal anesthesia, but he stated that he had completely abandoned it since his experience in three cases. In the first, a woman of 50 passed successfully through a vaginal hysterectomy. Three months later she developed paresis of the legs with incontinence of

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6. The term secondary hydrolytic derivatives is used because the formation of the primary derivatives usually precedes the formation of these secondary derivatives.

7. As thus defined, this term does not strictly cover all the protein derivatives commonly called proteoses, e. g. heteroproteose and dysproteose.

8. In this group the kyrines may be included. For the present we believe that it will be helpful to retain this term as defined, reserving the expression peptide for the simpler compounds of definite structure, such as dipeptides, etc.

9. The peptones are undoubtedly peptides or mixtures of peptides, the latter term being at present used to designate those of definite structure, such as dipeptides, etc.

urine and feces, and died with symptoms of softening of the brain within the year; this result also occurred in a second case. In a third case the patient died suddenly three weeks after a simple suture of a perineal laceration under spinal anesthesia. He never had such experiences before using spinal anesthesia and he has had none since he discontinued it. Nélaton stated that his experience was similar in two cases, and he has likewise abandoned this form of anesthesia. Tuffier and Chaput reported invariably favorable experiences with spinal anesthesia which they have applied in hundreds of cases each. The latter warned against this technic for elderly and much debilitated patients, as they are peculiarly liable to syncope.

Massive Dosage of Quinin in Pneumonia.—Dr. R. L. Payne of Norfolk, Va., in the *Charlotte Medical Journal* for March, gives his experience with the treatment of pneumonia by large doses of quinin, as a contribution to a question which he realizes is as yet doubtful and is warranted only by results obtained in the experience of a few men. He considers that the profession owes a big debt to Galbraith for his article entitled "Fifty Consecutive Cases of Pneumonia Without a Death," published in THE JOURNAL, Jan 28, 1905, in which he advocated the use of large and repeated doses of quinin, differing, however, in his methods from that of A. L. Loomis (1875), and Juergensen (1879). Payne says: "In brief the treatment consists of the administration of from 40 (2.60 gms.) to 80 (5.20 gms.) grains of quinin sulphate at one dose, followed in three hours by 30 (1.95 gms.) or more, and then starting with tincture of ferric chlorid minims 15 (1.0 gm.) to 20 (1.30 gm.) every three or four hours. The second day, and even the third, these doses are repeated, and if at that time the patient is not considerably better or the crisis has not taken place, then 10 grains (0.65 gm.) of quinin are given every three or four hours. Of course these are adult doses, and the doses for children should be proportionate." During the winter and spring of 1906 Payne saw and treated by this method twenty-two cases of pneumonia, and subsequently seven cases more, without a death. He reports three cases, one of alcoholic pneumonia, one in a child aged 3 years, and one of postoperative or ether pneumonia. As against the supposed contraindication from the laboratory teachings, viz., that quinin checks the formation of leucocytes and inhibits their ameboid movements, Payne says that in all his cases careful counts were made of the white cells, with the result that from one to six hours after the exhibition of large doses of quinin the leucocytes invariably increased from one to three thousand. Cinchonism is very rare in such cases, even after massive doses, and he refers to one case in which a patient received 100 grains (6.40 gms.) by mistake for 50 grains (3.20 gms.), with no other symptom or ill-effect than a slight tinnitus. Whenever deafness and tinnitus do appear, which depends largely on the degree of disease intoxication, they invariably disappear in from six to eight hours. Payne does not notice them any longer, but relies on the pulse as a guide in giving quinin, which stimulates the heart, giving a slower, softer pulse and materially increasing the peripheral circulation. There appears to be some neutralizing interaction between the disease toxin and quinin, for before intoxication is marked, cinchonism is induced by much smaller doses than can be easily borne without ill symptoms after the circulating toxins are increased. The small amount of sputum in pneumonia cases treated by quinin, a point to which Galbraith refers in his article, was noticeable also in the author's cases. This result he attributes, not only to the inhibition of ameboid movement in the leucocytes decreasing exudation, and may be to stimulation of the leucocytes by the quinin to increased phagocytosis, but probably also to some influence by it on the pneumococci; for, blood examinations of smears, taken both before and after giving quinin, with a comparative study of the white cells, showed that six or seven hours after giving quinin the leucocytes appeared somewhat swollen and the protoplasm contained granules, fragments of bacteria and débris much in excess of that in the preparations stained before giving the quinin. This was demonstrated by repeated preparations. The increase in the number of leucocytes being so small, it is only reasonable to attribute the increased phagocytosis, which he considers certainly to occur, to the sensitizing of the bacteria by the bacteria circulating in the blood and rendering them more digestible. While the death rate ordinarily in pneumonia is reckoned as from 20 to 40 per cent., Payne says that those using the quinin treatment place the mortality at about 2 per cent. Finally he says: "Don't wait until bacteriolysis has distributed a lethal dose, but give your quinin in large doses from the outset of the disease."

Cactus Method of Destroying Mosquito Larvæ.—The *Presse Médicale*, February 29, describes the method of destroying mosquito larvæ in stagnant waters proposed and effectually applied by S. de Puyberneau, chief of the health department in the French Congo. The principle is the same as that of petrolization of the water, only he uses the leaves of the *Opuntia vulgaris*, the common prickly pear cactus of the tropics. The thick, fleshy leaves contain a mucilage which exudes when the leaves are chopped and added to water, the mucilage rising to the surface and forming a practically air-tight coating similar to that formed by oil. The mucilage is absolutely harmless to man, animals and fish, and it floats on the surface for several weeks or months, not requiring renewal like the oil.

Early Traumatic Arteriosclerosis.—F. Rivalta describes a case of pronounced arteriosclerosis in a man of 20 which had developed soon after a severe fall on the head while riding. The temporal and frontal arteries were enormously enlarged when first seen, six months after the traumatism. He had lain unconscious for ten days after the fall on his head, and the general arteriosclerosis had developed to an extreme degree in the following six months. The temporal and frontal arteries were enlarged and tortuous to an exceptional degree and other arteries also showed pronounced sclerosis, as can be seen in the photographs accompanying the report, which was published in the *Policlinico* for March, 1907.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

GEORGIA Homeopathic Board of Medical Examiners, Atlanta, May 4. Secretary, Dr. R. E. Hinman, 153 Whitehall St., Atlanta.

GEORGIA Regular Board of Medical Examiners, Capitol Building, Atlanta, May 4-5. Secretary, Dr. E. R. Anthony, Griffin.

MISSOURI State Board of Health, St. Louis and Kansas City, May 4-6. Secretary, Dr. J. A. B. Adcock, Warrensburg.

LOUISIANA Homeopathic Board of Medical Examiners, New Orleans, May 5. Secretary, Dr. Gayle Aiken, 1102 St. Charles Ave., New Orleans.

TENNESSEE State Board of Medical Examiners, Memphis, Nashville and Knoxville, May 5. Secretary, Dr. T. J. Happel, Trenton.

MISSISSIPPI State Board of Health, State Capitol, Jackson, May 12. Secretary, Dr. J. F. Hunter, Jackson.

ILLINOIS State Board of Health, City Hall, East St. Louis, May 12-14. Secretary, Dr. J. A. Egan, Springfield.

NORTH CAROLINA State Board of Medical Examiners, Winston-Salem, May 19. Secretary, Dr. G. T. Sikes, Grissom.

MASSACHUSETTS State Board of Registration in Medicine, State House, Boston, May 12-14. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

NEW YORK State Board of Medical Examiners, Albany, May 19-22. Chief of Examinations Division, Charles F. Wheelock, Albany.

LOUISIANA State Board of Medical Examiners, New Orleans, May 21-22. Secretary, Dr. Felix A. Larue, 211 Camp St., New Orleans.

INDIANA Board of Medical Registration and Examination, Indianapolis, May 26-28. Secretary, Dr. W. T. Gott, 120 State House, Indianapolis.

NEBRASKA State Board of Health, State Capitol, Lincoln, May 27-29. Secretary, Dr. E. J. C. Sward, Oakland.

CONFERENCE ON EDUCATION.

Fourth Annual Educational Conference, Held in Chicago.

The fourth annual conference of the Council on Medical Education of the American Medical Association was held in the Auditorium Hotel, Chicago, April 13. Besides the address of the chairman, Dr. Arthur Dean Bevan, and the report of the secretary, Dr. N. P. Colwell, reports of three special committees were given.

The committee on "Preliminary Education" consisted of Drs. J. H. Long, professor of chemistry at Northwestern University Medical School, chairman; Charles R. Bardeen, dean of the College of Medicine of the University of Wisconsin, and George A. Piersol, professor of anatomy at the University of Pennsylvania.

The committee on "What Should Constitute a Medical College in Good Standing?" consisted of Drs. Victor C. Vaughan, dean of the College of Medicine and Surgery of the University of Michigan; William J. Means, chairman of the judicial council of the Association of American Medical Colleges, and George W. Webster, president of the State Board of Health of Illinois.

The commitee on "The Essentials of a Model Medical Practice Act" consisted of Drs. Beverly D. Harison, secretary of the Michigan State Board of Registration in Medicine; F. Dudley Tait, chairman of the credential committee of the Board of Medical Examiners of California, and William Warren Potter, president of the State Board of Medical Examiners of New York.

A special discussion on "The Character of the State Medical Licensing Examination" was participated in by Drs. J.W. Bennett, secretary of the State Board of Medical Examiners of New Jersey; W. T. Councilman, professor of pathology at Harvard University Medical School; F. F. Wesbrook, dean of the College of Medicine and Surgery of the University of Minnesota, and J. A. Witherspoon, professor of medicine at Vanderbilt University Medical Department.

Another special discussion on "Practical Ideas Concerning Reciprocity" was participated in by Drs. A. Ravogli, president of the State Board of Medical Examiners of Ohio; S. D. Van Meter, secretary of the State Board of Medical Examiners of Colorado, and Frank J. Lutz of the State Board of Health of Missouri.

In his address Dr. Bevan told of the progress being made in medical standards, calling particular attention to the merging of the medical colleges in Minnesota and Indiana, and urging that like mergers be made in other localities where two or more colleges exist.

The report of the secretary contained a comparison of preliminary and medical education in European countries with that in the United States, showing that the amount of time required to complete the medical course in the majority of European countries agrees with the ideal standard adopted by the American Medical Association at Portland in 1905. It was also shown that fifty leading medical colleges by 1910 will be requiring one or more years' study in a college of liberal arts, including courses in physics, chemistry and biology. The examining boards of Minnesota and North Dakota, after 1912, require preliminary education equal to two years of university work, while the boards of Colorado, Connecticut and South Dakota will require the equivalent of one year of university work.

Thirty-four states now have reciprocal relations with four or more other states. During the past year 834 licenses were issued through reciprocity, or 149 more than in 1906. Through the Council on Medical Education the American Medical Association is now exerting a constant, steady influence for fairer and more uniform standards of medical education which will continue to bring good results.

Following the report of the committee on preliminary education President Charles W. Eliot of Harvard University was called on to open the discussion. He spoke at length regarding high standards of preliminary education and called attention to the fact that the colleges holding high standards are more apt to secure endowments. The discussion was continued by Dr. Charles S. Sheldon, Madison, Wis., representing the American Academy of Medicine. Dr. Sheldon was of the opinion that the work in physics, chemistry and biology could not well be completed in less than two years of university work. Prof. A. H. T. Barbour of the University of Edinburgh made a few remarks regarding medical standards in Scotland.

The committee on "What Should Constitute a Medical College in Good Standing?" gave an outline of the minimum requirements of laboratory equipment and clinical facilities which should obtain in a medical college before it could be considered as giving a satisfactory course. The discussion was opened by Dr. James W. Holland, dean of Jefferson Medical College, Philadelphia. Special reports were read by two members of the committee on "The Essentials of a Model Medical Practice Act" and the discussion was opened by Dr. Alexander R. Craig, secretary of the committee on public policy and legislation of the Medical Society of the State of Pennsylvania.

In the discussion on "The Character of the State Medical Licensing Examination," the central thought was that the state licensing examination should be such as to discriminate between the man who has been trained in laboratories and clinics and the man who has only a "quiz-compend" education.

About 100 delegates were present.

Connecticut Eclectic March Report.

Dr. Thomas S. Hodge, secretary of the Connecticut Eclectic Medical Board, reports one reciprocal license issued March 10, 1908, through reciprocity with New York, to a graduate of the Eclectic Medical College of New York, 1906.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

OPEN METHOD OF GIVING ETHER—CANCER STATISTICS.

TEMPLE, OKLA., March 21, 1908.

To the Editor:—1. Please give open method of administering ether; I have no literature on the subject.

2. Do statistics on surgery in carcinoma coincide with the statements in the enclosed clipping? M. T. C.

ANSWER.—1. When ether is given by the open method it is given practically in the same way as chloroform; that is to say, it is given drop by drop with a slight admixture of air. An article on this subject appeared in the *Annals of Surgery*, September, 1907, and was abstracted in THE JOURNAL, Oct. 19, 1907, page 1401. Another article appeared in the *British Medical Journal*, Nov. 23, 1907.

2. The clipping referred to—"The Hopelessness of Cancer," quoting an editorial from the *New York Sun*—reports "Dr. Robert Bell, formerly senior physician of the Glasgow Women's Hospital" as saying that: "During fifteen years' experience as an operating surgeon, he has been unable to give a single success in dealing with cancer." We can not locate that exact quotation, but in an article by this author on the Cancer Problem in the *Dietetic and Hygienic Gazette*, March, 1907, the following words occur: "During a period of fifteen years I had innumerable opportunities of operating on cancer patients, and it was because I never had a case in which recurrence did not take place—nor did I hear of any other surgeon being more fortunate—that I determined in 1894 never to operate in malignant disease again." He goes on to state that since that period, notwithstanding what Dr. Senn has stated, his patients have recovered from the disease, while, on the other hand, those who have been treated surgically, have, without exception, had their suffering aggravated and their lives shortened. He asks: "Is this not the truth?" Before we answer this closing question, it will be well to examine the premises. What constitutes a cure? Obviously, recurrence after operation indicates that the patient certainly was not cured. On the other hand, no period of freedom, of course, is an absolute guarantee that the disease will never return. What is known as the three years' limit has been arbitrarily fixed as the period before which no judgment at all should be formed. The longer the period of freedom is prolonged beyond three years the greater does the probability of actual cure become. Dr. Bell asserts, not only that he never had a case himself in which operation was not followed by recurrence, but that he has never heard of a surgeon who was more fortunate. So far as the experience of other surgeons is concerned, it betrays not only ignorance, but culpable ignorance, of the present status of the operative treatment of cancer. At the last meeting of the American Surgical Association, in a symposium on "Cancer of the Breast," Halstead, out of 210 cases that he had been able to follow, found 35.6 per cent. alive and well without any evidence of recurrence from 3 to 16 years after operation. Greenough, out of 376 cases which were followed to an end result, found 64 patients alive and well without recurrence from 3 to 14

years after operation. Of this number, 21 had gone 10 years or more without recurrence. Dennis reported 39 patients alive and well from 5 to 25 years after operation, all of whom had been watched from time to time, and most of whom had been seen or heard from recently. Ochsner reported 5 patients alive and well 10 years after operation and 20 patients over 5 years.

But Dr. Bell is a member of the British profession, so we will quote an authority non-acquaintance with which, since he claims to have paid special attention to the subject of cancer, should convict him of culpable ignorance; while, on the other hand, if he is acquainted with it, we must substitute for a charge of ignorance one of deliberate mendaciousness. Mr. Mayo Robson's Bradshaw Lecture on the "Treatment of Cancer" was delivered before the Royal College of Surgeons on Dec. 1, 1904, and published in the *Lancet*, Dec. 3, 1904, i. e., three years before Dr. Bell made the assertion that he had never heard of any other surgeon having a more fortunate experience than his own. In that lecture, Mr. Robson reports, besides very many other cases of patients who have remained well and without recurrence for periods less than 10 years, which will not be further referred to here, one of his own alive and well (having borne two children in the interim) ten years after excision of the sigmoid for cancer; also two twelve and ten years' respectively, after removal of the breast. He also cites the following of other surgeons: T. Bryant, 5 patients alive and well without recurrence, for periods of from 10 to 16 years, and 3 who had died from other causes, without recurrence, from 13 to 20 years after operation; Cullingworth, 1, in which 6 years of repeated operations were followed by 49 years of health; Owen, 1, in whom 3 early operations were followed by 20 years of health; Kocher of Berne, 2, 11 and 16 years after gastrectomy for cancer of stomach; Semon, 15 out of 18 patients with laryngeal cancer "permanently cured;" Duplay and Reclus, 4, from 13 to 16½ years; the Göttingen clinic, 12 for twelve years and 1 for 18 years; Sheild, 1 case, in which a patient died at the age of 81 without recurrence 20 years after operation; Jessett, 2, 11 and 10 years, respectively, after hysterectomy for cancer, and so on. As has been stated, no patient has been included in this list who has not survived without recurrence at least ten years. When, therefore, Dr. Bell asserts that "those who have been treated surgically have without exception had their sufferings aggravated and their lives shortened," and has the effrontery to add, "Is this not the truth?" we have no hesitation whatever in replying: "No, it is not, and Dr. Bell knows that it is not," for it passes the bounds of credulity to believe that any surgeon having held the professional appointments that Dr. Bell once held, could be so hopelessly, crassly, culpably ignorant of what is matter of common professional knowledge.

LITERATURE ON THE SEX PROBLEM AND THE SOCIAL EVIL.

To the Editor:—I am preparing a lecture on the subject of the sex problem and the social evil. Will you refer me to any literature on the subject that may aid me in the preparation of a lecture adapted to audiences of young men. R. A. F.

ANSWER.—The following articles on the subject have been published by THE JOURNAL at various times within recent years:

Morrow, Prince A.: The Sanitary and Moral Prophylaxis of Venereal Diseases, March 4, 1905, 675.

Kelley, Howard A.: What is the Right Attitude of the Medical Profession Toward the Social Evil, March 4, 1905, 679.

Bulkley, L. Duncan: Syphilis as a Disease Innocently Acquired. March 4, 1905, 681.

Editorial: Venereal Disease and Public Health. Aug. 18, 1906, 511.

Morrow, Prince A.: Publicity as a Factor in Venereal Prophylaxis, Oct. 20, 1906, 1244.

Herdman, W. J.: Duty of the Medical Profession to the Public in the Matter of Venereal Disease, Oct. 20, 1906, 1246.

Holton, H. D.: Duty of the State Toward Venereal Diseases, Oct. 20, 1906, 1248.

Carrier, A. E., Whiteside, G., Lewis, D.: A Symposium on What Shall We Teach the Public Regarding Venereal Diseases, Oct. 20, 1906, 1250.

Johnson, J. T.: The Influence of Gonorrhea as a Factor of Depopulation, Aug. 10, 1907, 451.

Keyes, E. L., Jr.: Syphilis as a Cause of Depopulation and Race Deterioration, Aug. 10, 1907, 453.

Chassaignac, C.: Etiology of the Social Evil, Dec. 22, 1906, 2075.

Weiss, Ludwig: Prostitution Problem in Its Relation to Law and Medicine, Dec. 22, 1906, 2071.

Willson: R. N.: The Relation of the Medical Profession to the Social Evil, July 7, 1906, 29.

Kelley, H. A.: Regulation of Prostitution, Feb. 10, 1906, 897.

Other articles of interest are:

Putnam, H. C.: Instruction in Physiology and Hygiene of Sex in the Public School, *Boston Med. and Surg. Jour.*, Jan. 31, 1907.

Lewis, D.: The Social Evil, *Buffalo Med. Jour.*, December, 1906.

For books on the subject the following are recommended by the Chicago Society of Social Hygiene; "Social Diseases and Marriage," by Prince A. Morrow. "Confidential Talks with Young Men," and "Confidential Talks with Young Women," both by Dr. Lyman B. Sperry. "Reproduction and Sexual Hygiene," by Winfield S. Hall, M.D. These may be ordered through any general book dealer.

Several societies have been organized for conducting an educational campaign along these lines. Some of the best known are: (1) The American Society of Sanitary and Moral Prophylaxis, secretary, Dr. E. L. Keyes, Jr., 109 East Thirty-fourth St., New York City. This society publishes educational pamphlets: "The Young Man's Problem," (10 cents); "For Teachers," (10 cents); "The Relation of Social Diseases with Marriage and Their Prophylaxis" (25 cents). (2) The American Health Defense League, with headquarters at 37 Liberty Street, New York City. (3) The Pennsylvania Society for the Study and Prevention of Social Disease, secretary R. N. Willson, M.D., 1708 Locust Street, Philadelphia. (4) The Chicago Society of Social Hygiene, secretary, W. T. Belfield, M.D., 100 State Street Chicago. This society issues a number of circulars for free distribution. (5) The National Purity Association of 79 Fifth Avenue, Chicago, publishes a reprint of five papers read before the Section on Hygiene and Sanitary Science of the American Medical Association, entitled "Protection for the Innocent," which it sells for 6 cents. (6) The National Purity Federation, whose secretary is Miss Hattie Dickson, Marshalltown, Iowa, also publishes and has for sale literature on the subject of personal purity. The Scott County (Iowa) Medical Society issues a "Circular of Warning" for distribution among the young people of that district: Dr. C. H. Preston of Davenport, Iowa, would doubtless send a copy of this circular on receipt of postage.

ALOPECIA AREATA.

———, ———, April 5, 1908.

To the Editor:—I have a case of what seems to be alopecia in a man of 28, who is perfectly healthy and has no specific history whatever. He wore a full beard, but noticed a bare patch on the left side of the chin, so shaved off his beard; the patch is perfectly hairless and presents no sign of any inflammation whatever. It has spread slightly. I have used all the ordinary remedies advised in such cases with no results. Can you advise any further treatment? H. R.

ANSWER.—This case is undoubtedly one of alopecia areata, the evident characteristic of which is the sudden appearance of patches of baldness without assignable cause. The etiology of the condition is unknown. Sometimes the disease occurs in groups of cases as though it were contagious, and possibly some of the cases are of mycotic origin. In the vast majority of cases, however, the disease occurs sporadically. These sporadic cases are supposed to be of nervous origin, but there are no definite grounds for this belief. The condition tends to get well of itself, but it runs no definite course; only a single patch may appear or patches may appear, get well and new patches appear. Its whole course may be confined to a month or two or it may persist for several years. The treatment is uncertain, but only occasionally seems definitely beneficial. It consists in the use of vigorous stimulants. Perhaps the best one is 95 per cent. phenol. This is painted on, left until the surface becomes whitened and then washed off with alcohol. A new application should not be made until the reaction has subsided. Another method for stimulation is by the brush discharge from a static machine. Probably one form of stimulation is as good as another, although phenol is more frequently successful than any other stimulant.

WANTED—EFFICIENT MEANS TO EXTERMINATE FLIES.

FIELDHOME, N. Y., April 6, 1908.

To the Editor:—In reply to the inquiry by J. M. C. in THE JOURNAL, April 4, 1908, 1141, permit me to give my experience. For years I was greatly annoyed by house flies and finally I ordered powdered buhach (powdered flower-heads of *Chrysanthemum turcanum*) from the druggist, but he sent me pyrethrum, which was not satisfactory. I then sent to California and obtained powdered buhach, about a pint of which I placed on a metal plate, lighted it and allowed it to smolder. The room was a large one, being about 70 feet long, 40 feet wide and 15 feet high; some hours later three pints of seemingly dead flies were swept up and burned—to make sure. I was within four feet of the smoldering mass, and while the odor was not pleasant I suffered no inconvenience; four of the thirty-seven persons present complained of headache, roughness of the throat or unpleasant sensations in the nose. Four applications during the fly season, with care regarding window and door screens, kept the place free from flies for the season.

A. N. O.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending April 11, 1908:

Carter, W. F., surgeon, and Ragan, C. A., asst.-surgeon, appointed members of an examining board to meet at Fort Monroe, Va., for the examination of officers of the Coast Artillery Corps for promotion.

Davis, W. R., and Juenemann, G. F., asst.-surgeons, appointed members of an examining board to meet at Fort Baker, Cal., for the examination of applicants for commission in volunteer forces.

LaGarde, L. A., deputy surgeon general, arrived at Denver, for duty as chief surgeon, Department of Colorado.

Holmes, T. G., and Kellogg, P. S., contract surgeons, sailed April 6, from San Francisco, Cal., on the *Sherman* for Philippine service.

Dougherty, J. C., contract surgeon, granted leave of absence for four months.

Ashburn, J. K., contract surgeon, relieved from duty at Fort Lincoln, N. D., and ordered to Fort Assinniboine, Mont., for duty.

Marvin, M. F., contract surgeon, left Fort Mansfield, R. I., on leave of absence for two months.

Trotter-Tyler, Geo., contract surgeon, left Fort Adams, R. I., and arrived at Fort Mansfield, R. I., for temporary duty.

Bastion, J. E., contract surgeon, granted leave of absence for fifteen days.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending April 11, 1908:

Harmon, G. E. H., medical director, detached from command of the Naval Hospital, New York, and ordered hom to wait orders.

Green, E. H., medical inspector, detached from the Navy Yard, New York, and ordered to command the Naval Hospital, New York.

Lung, G. A., surgeon, detached from the *Hancock* and ordered to the Navy Yard, New York.

Bishop, L. W., P. A. surgeon, detached from the Naval Training Station, Newport, R. I., and ordered to the *Hancock*.

Stoops, R. E., asst.-surgeon, commissioned P. A. surgeon from Dec. 26, 1906.

Wickes, G. L., P. A. surgeon, commissioned P. A. surgeon from April 12, 1907.

Chambers, W., Stearne, C. F., asst.-surgeon, appointed asst.-surgeons from March 19, 1908.

Richards, T. W., surgeon, ordered to the *Kansas*, when discharged from treatment at the Naval Hospital, Mare Island, Cal.

Abeken, G. F., P. A. surgeon, detached from the Naval Training Station, San Francisco, and ordered to the *West Virginia*.

Plummer, R. W., P. A. surgeon, ordered to the *Idaho*.

Stalnaker, P. R., asst.-surgeon, detached from the *West Virginia* and ordered to instruction at the Naval Medical School, Washington, D. C.

Melhorn, K. C., acting asst.-surgeon, ordered to the *Wabash*.

Rhoades, G. C., acting asst.-surgeon, ordered to the *Franklin*.

Page, J. E., surgeon, retired from active service from April 3, 1908, under the provisions of Section 1,453, Revised Statutes.

Morgan, C. R., acting asst.-surgeon, resignation accepted, to take effect April 8, 1908.

Biello, J. A., acting asst.-surgeon, ordered to duty at the Naval Hospital, Portsmouth, N. H.

Hough, F. P. W., acting asst.-surgeon, ordered to the Naval Proving Ground, Indian Head, Md.

McGuire, L. W., acting asst.-surgeon, ordered to duty at the Naval Hospital, Charleston, S. C.

Bacon, S., acting asst.-surgeon, ordered to duty at the Naval Hospital, New Fort Lyon, Colo.

Ziegler, J. Z., acting asst.-surgeon, appointed acting asst.-surgeon from April 6, 1908.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 8, 1908:

Stoner, G. W., surgeon, granted leave of absence for 5 days, from March 30, 1908, under Paragraph 189, Service Regulations.

Carmichael, D. A., surgeon, leave of absence granted for 10 days, from March 25, 1908, on account of sickness, amended to read for 6 days only.

Wertenbaker, C. P., surgeon, directed to proceed to Cape Charles Quarantine Station for special temporary duty, on completion of which to rejoin his station at Norfolk, Va.

Stimpson, W. G., surgeon, bureau order of March 11, 1908, directing him to report to the commanding officer of the revenue-cutter *Thetis* for temporary duty revoked.

Stimpson, W. G., surgeon, granted leave of absence for 6 days, from April 7, 1908.

Blue, Rupert, and Rucker, W. C., P. A. surgeons, detailed to attend the meetings of the State Health Officers of California, at Coronado, Cal., April 20, 1908, and of the State Medical Society, at the same place, April 21, 1906, and to attend the meeting of the City Board of Health at San Diego, Cal.

Oakley, J. H., P. A. surgeon, directed to assume temporary charge of the Marine-Hospital at Port Townsend, Washington, during the absence of Surgeon Stimpson on leave.

Mathewson, H. S., P. A. surgeon, directed to visit charitable institutions within a radius of 75 miles of Cleveland, Ohio, from time to time, for the purpose of examining aliens reported to be public charges.

Goldberger, Joseph, P. A. surgeon, granted leave of absence for 5 days, from March 3, 1908, under provisions of Paragraph 191, Service Regulations.

Roberts, Norman, asst.-surgeon, directed to proceed to Baltimore, from time to time, for special temporary duty, on completion of which to rejoin his station.

Wightman, Wm., asst.-surgeon, relieved from duty at Callao, Peru, and directed to proceed to Guayaquil, Ecuador, reporting to P. A. Surgeon Lloyd for duty.

Bryan, W. M., asst.-surgeon, bureau orders of March 25, 1908, assigning him to temporary duty at the Quarantine Station, Quarantine, Louisiana, amended to read "for duty and assignment to quarters."

Lanza, A. J., asst.-surgeon, relieved from duty at the Marine Hospital in San Francisco, and directed to report, April 15, 1908, to the commanding officer of the revenue-cutter *Manning*.

Krulish, E., asst.-surgeon, granted leave of absence for 2 days, from March 24, 1908, under Paragraph 191, Service Regulations.

Warner, H. J., asst.-surgeon, directed to proceed to Baltimore, reporting to the medical officer in commanad at that port for duty and assignment to quarters.

Wood, Charles E., asst.-surgeon, directed to report to the medical officer in command at Stapleton, N. Y., for duty and assignment to quarters.

Fauntleroy, Charles M., asst.-surgeon, directed to report to the medical officer in command, New Orleans, for duty and assignment to quarters.

Olesen, Robert, asst.-surgeon, directed to proceed to San Francisco, reporting to the medical officer in command for duty and assignment to quarters.

McConnon, George H., asst.-surgeon, directed to proceed to Port Townsend, Washington, reporting to the commanding officer of the U. S. revenue-cutter *Rush* for duty.

Hart, Lasher, asst.-surgeon, directed to proceed to Stapleton, N. Y., reporting to the medical officer in command at that port for duty and assignment to quarters.

Delgado, J. M., acting asst.-surgeon, granted leave of absence for 23 days, from March 3, 1908, on account of sickness.

Hamilton, Jamin H., acting asst.-surgeon, granted leave of absence for 30 days, from Feb. 22, 1908, on account of sickness.

Simonson, G. T., acting asst.-surgeon, leave of absence granted for 2 days, from March 31, 1908, revoked.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for 1 day, from March 27, 1908, under Paragraph 210, Service Regulations.

Thomas, J. M., acting asst.-surgeon, directed to make inspection of certain stations in Cuba, returning to New Orleans on completion thereof.

Walker, R. T., acting asst.-surgeon, granted leave of absence for 20 days, from April 27, 1908.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for 1 day, from March 31, 1908, under Paragraph 210, Service Regulations.

Wilson, J. G., acting asst.-surgeon, granted leave of absence for 2 days, from March 21, 1908, under Paragraph 210, Service Regulations.

APPOINTMENTS AS ASSISTANT SURGEONS.

Dr. H. J. Warner, April 3, 1908.
Dr. Charles E. Wood, April 2, 1908.
Dr. Charles M. Fauntleroy, April 1.
Dr. Robert Oleson, April 1, 1908.
Dr. George H. McConnon, April 1, 1908.
Dr. Lasher Hart, April 2, 1908.

RESIGNATIONS.

Stansfield, H. A., P. A. surgeon, to take effect March 23, 1908.
Linley, W. J., acting asst.-surgeon, to take effect April 1, 1908.

BOARDS CONVENED.

Boards of medical officers were called to meet on April 9, 1908, for the purpose of making physical examination of such officers of the U. S. Revenue-Cutter Service as should present themselves for that purpose as follows:

New York: P. A. Surgeon H. W. Wickes, chairman; Acting Asst.-Surgeon T. Mahoney, recorder.
San Francisco: Surgeon H. W. Austin, chairman; P. A. Surgeon C. H. Gardner, recorder.
Baltimore: Surgeon L. L. Williams, chairman; P. A. Surgeon J. T. Burkhalter, recorder.
Wilmington, N. C.: P. A. Surgeon C. H. Lavinder, chairman; Acting Asst.-Surgeon ——, recorder.
Key West, Fla.: Surgeon C. E. Banks, chairman; Acting Asst.-Surgeon S. W. Light, recorder.
Mobile, Ala.: Surgeon G. M. Guiteras, chairman; Acting Asst.-Surgeon J. O. Rush, recorder.
Port Townsend, Wash.: P. A. Surgeon J. H. Oakley, chairman; Acting Asst.-Surgeon Robert Lyall, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 10, 1908:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 14-21, 9 cases; San Bernardino County, March 19-20, 6 cases; San Francisco, 18 cases.
District of Columbia: Washington, March 14-28, 23 cases.
Florida: Jacksonville, March 21-28, 1 case.
Illinois: Rockford, March 21-28, 1 case; Springfield, March 19-26, 4 cases.
Indiana: Elkhart, March 21-28, 1 case; Evansville, April 1, 1 case; Indianapolis, March 22-29, 4 cases, 1 death.
Iowa: Ottumwa, March 21-28, 2 cases; Sioux City, March 1-31, 16 cases.
Kansas: Kansas City, March 21-28, 18 cases.
Louisiana: New Orleans, March 21-28, 10 cases, 2 deaths.
Michigan: Detroit, March 21-28, 2 cases; Grand Rapids, 4 cases; Kalamazoo, 2 cases.
Minnesota: Winona, March 21-28, 2 cases.
Missouri: Kansas City, March 14-28, 16 cases; St. Joseph, March 14-21, 30 cases; St. Louis, March 21-28, 2 cases.
Montana: State, Feb. 1-29, 58 cases.
Nebraska: Nebraska City, March 21-28, 4 cases.
Ohio: Holloway, Feb. 22-March 19, 15 cases; Toledo, March 14-21, 2 cases.
Texas: San Antonio, March 21-28, 14 cases.

Washington: Spokane, March 15-21, 15 cases; Tacoma, March 14-21, 1 case.
Wisconsin: Milwaukee, March 21-28, 2 cases; Racine, 5 cases.
West Virginia: Charleston, March 1-31, 2 cases.

SMALLPOX—FOREIGN:

Brazil: Para, Feb. 29-March 7, 1 case, 1 death.
Canada: Toronto, March 14-21, 7 cases.
China: Amoy (Kuiangsu), Jan. 25-Feb. 15, present; Foochow, Feb. 22-29, present; Shanghai, Feb. 9-16, 4 cases, 7 deaths.
Ecuador: Guayaquil, Feb. 29-March 14, 8 cases.
France: Paris, March 17-24, 5 cases.
India: Bombay, Feb. 26-March 3, 50 deaths; Calcutta, Feb. 8-15, 8 deaths.
Italy: Catania, March 5-12, 2 deaths.
Java: Batavia, Feb. 8-15, 3 cases.
Mexico: Aguas Calientes, March 8-22, 2 cases.
Portugal: Lisbon, March 7-14, 1 case.
Spain: Denia: Feb. 29-March 14, 10 cases; Valencia, March 8-15, 27 cases.
Turkey: Bagdad, Feb. 1-15, 89 cases, 20 deaths.

YELLOW FEVER.

Barbadoes: Bridgetown, vicinity, March 7-14, 1 case, 1 death.
Brazil: Para, Feb. 29-March 7, 8 cases, 7 deaths.
Ecuador: Guayaquil, Feb. 29-March 14, 11 deaths.

CHOLERA.

India: Bombay, Feb. 6-March 3, 1 case; Calcutta, Feb. 8-15, 129 cases; Madras, Feb. 22-28, 9 cases; Rangoon, Feb. 15-22, 1 case.

PLAGUE.

Brazil: Para, Feb. 29-March 7, 1 case.
India: Bombay, Feb. 26-March 3, 185 cases; Calcutta, Feb. 8-15, 13 cases, Rangoon, Feb. 15-22, 27 cases.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Dr. McCormack's Work in Louisiana.

AN APPRECIATION BY THE PRESIDENT OF THE STATE SOCIETY.

Shreveport, La., April 8, 1908.

To the Editor:—We have just been through what would be designated a "series of revivals" had it been in the work of the church instead of that along the lines of the medical profession—but still I think the term is applicable in this instance, covering as it did fourteen important points, where lectures were given both to the medical profession and to the laity. I speak of the recent tour of Louisiana by Dr. J. N. McCormack, from March 16 to March 31, and embracing the towns of Monroe, Ruston, Shreveport, Natchitoches, Lake Charles, Opelousas, La Fayette, Houma, New Orleans, Amite City, Baton Rouge, Donaldsonville and Alexandria, at some of which places he delivered as many as three lectures.

In all my professional experience, covering twenty years of the practice of medicine, I have never had such an uplift and encouragement as I received from this tour with Dr. McCormack. The state of Louisiana is beginning to awaken from its deep lethargy on the subjects dwelt on by the lecturer. At these meetings we had with us not only the leading physicians and druggists, but also the leaders in educational work, teachers and students and leading citizens. My office has received many communications from different laymen speaking in the highest praise of the work which Dr. McCormack is accomplishing. The standard of our profession will be greatly improved by his coming and the people as a whole will have a better conception of what their doctor means to them and to the community, as well as a different view of health conditions. We think the people are now ready to number the days of the flies and mosquitoes. Members of the legislature assured us that they had never before had the proper conception of existing conditions, and they pledged their support toward modern laws. Great numbers of people are discussing the talks given, and war is being made against quacks and frauds, and all the newspapers are standing back of us and endorsing the idea of education of school children in school hygiene and sanitation. We hope to have the support of the newspapers in a crusade against the "patent-medicine" evil.

We feel that no other man could have accomplished so much, as we believe no other man is so well fitted for the work. Dr. McCormack is a man of energy, alert and alive on all questions, possessing great social flexibility and able to adjust himself to any person, pleasant, genial, large hearted, all this combined with good judgment of human nature, making him an exceptionally rare man, one of vast resources and in the vanguard of the profession. We feel his lectures, soon to be published, should be widely distributed and read, thus the power will follow this wonderfully good man. The one great indisputable fact which reaches each hearer is that he not only preaches, but better still practices, and when a speaker convinces his audience that he truly means all he says, his cause is won. Thus we found him. We feel that his coming will result in untold good to the profession and that the results on the general public will be incalculable.

At the general meetings, prominent laymen presided, and gave the speaker unqualified endorsement. At Baton Rouge, Governor Newton C. Blanchard presided and expressed deep gratification for the medical profession and the people of Louisiana. The physicians accorded Dr. McCormack most cordial receptions, and took him right into their hearts. The people of Louisiana now realize there is no more vital question confronting them than self-medication. They realize that a great reduction in the amount of sickness will result if people will only observe the laws of Nature and keep their homes and backyards in perfect condition, and, above all, avoid the use of "patent medicines." Louisiana is on the verge of a great prohibition campaign, and the message is particularly timely that "these 'patent-medicines' are made of the vilest and poorest qualities of whisky, colored with burnt sugar and flavored with spices, besides all the forms of dope contained in them."

To-day our people have a higher regard for the medical man than ever before, and his advice will have due consideration by our city fathers, the state officials and the general public. These things could not have been brought more forcibly to their attention than through the lectures of Dr. McCormack. The druggists are loud in their praises of his meetings and speak in highest terms of the work done. Many druggists stayed away from the meetings, but have joined hands for the uplifting of suffering humanity.

We are promised better meat inspection, clean slaughter houses, better and purer foodstuffs, an improved milk system, and that the pollution of our streams will be discontinued and the purity of our water preserved.

The good work has already been taken up by our schools, and the leading educators advocating strict attention to physical defects, hygiene and sanitary conditions, and that special attention be given the water closets where so many vulgar pictures and vile epithets greet the eyes of the children. All this—and much more—has been brought about by the work started by Dr. McCormack, under the auspices of the Louisiana State Medical Society.

Oscar Dowling, President
Louisiana State Medical Society.

A Department of Health Wanted in Canada and Great Britain.

The question of the establishment of a department of public health is being discussed in Canada quite as seriously as in this country. In the *Dominion Medical Monthly* for January appeared an article by Dr. F. G. Bushnell of Brighton, Eng., entitled "The Appointment of Ministers of Health." Dr. Bushnell first asks: "Are there reasons for supposing that a minister at the head of an independent health department would lead to an increase of the powers for and the improvement of the health of the community?" This he answers by an analogy showing that the past achievements in science, statecraft, religion, war, commerce or exploration all prove that it is the individual who leads and that one man, if given the authority, can achieve in a year what may take a lifetime under different conditions. As illustrations of the possibilities of such a movement he recalls the fact that the minister of public health in Germany has practically abolished smallpox and that the president of the British local government board has suppressed rabies in England. Considering the work to be done by such a department, he cites the report of the registrar-general of the United Kingdom for 1899, which gives the total number of deaths for the year as 581,799, or 18.3 per thousand. An analysis of the returns shows that zymotic diseases were

responsible for 89,235 deaths, or 2,811 per million. Tuberculosis caused 10.4 per cent. of the deaths from all causes, or 60,659 in one year. Cancer was responsible for 26,325 deaths, 829 per million. There were 163 deaths of infants under one year of age in 1,000 infants. The mortality rate of infants under one year in London was 167 per thousand. Quoting from the vital statistics reports, he states that one-third of the deaths annually registered are due to removable causes.

Taking up the arguments against a national board of health, Dr. Bushnell says in reply to the objection of expense that the possible saving to the public through the regulation of phthisis alone would amount to $450,000, or enough to pay the entire expenses of the department. He then outlines the plan of organization for a department adapted to British needs and conditions.

Commenting editorially on Dr. Bushnell's paper, the *Dominion Medical Monthly* says: "The establishment of a department of public health has been agitated in the Canadian House of Commons and every doctor in the house has favored the project. . . . Year after year the Canadian Medical Association has urged on the federal government the urgency and necessity of this step, but although that association voices the sentiments of the Canadian profession nothing has come of it. It is well known that public health matters in Ottawa are scattered over five or six departments of the public service."

Another Scheme to Separate the Doctor from His Dollars.

Schemes for the exploitation of physicians, based on appeals to selfish motives, are apparently unlimited. The promoters do not always exercise discrimination, however, in selecting the members of the profession to whom their circulars shall be sent. The Industrial Review Publishing Company of Philadelphia appears to have been especially unfortunate in this particular, judging from the number of copies of its recent circular which have been sent us by physicians who were either amused or indignant at the scheme proposed. The *Review*, it appears, is a "semimonthly publication devoted exclusively to accident and health insurance." In the circular mentioned it announces that it has established a bureau of physicians and that a semiannual list of the physicians of this bureau will be furnished to "every accident and health insurance company to enable them to select a competent physician."

Accompanying the circular is a blank contract which provides that the physician signing it shall pay $2 a year as subscription to the *Industrial Review;* make within two days of receipt of request any medical examination and confidential reports on any applicant or policy holder of any health and accident insurance company; use his best efforts to secure the information which the company may desire, and do all in his power to promote the interest of the company; and not charge the company more than $2 for a single examination, $3 for adjusting a claim and $1 for additional examinations of the same individual. The publishers of the *Industrial Review* agree to furnish one copy of each issue of their paper, to insert the physician's name for one year in their list of physicians and to furnish this list to all health and accident companies in the United States.

It is difficult to see what the physician is to gain by entering into such a contract. All that the publishing company agrees to do is to send its paper and to publish the physician's name in the semiannual supplement. The physician, on the other hand, binds himself to make examinations for a fixed amount, which amount, by the way, is less than one-half of what he should receive, while the company is under no obligation whatever to furnish him with any business. Obviously, the company will secure just as many subscribers as possible in each town, so that the presence of an individual physician's name on the list would be of little value. We do not hesitate to endorse this plan as an excellent scheme—for the Industrial Review Publishing Company. We are strongly reminded of certain prize offers advertised by very cheap magazines in which a large cash capital prize is offered to the first person who sends in a correct solution of some absurdly simple problem, but—every person sending in an answer must be a subscriber in order to be considered. The only physicians who will be attracted by such a proposition are those who can get insurance work in no other way and whose examinations are not worth even $2.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month.

FOURTH WEEKLY MEETING.

Abortion.

Definitions: Abortion, miscarriage, premature labor, threatened, inevitable, partial, complete, missed, provoked, therapeutic, criminal.

Causes.—I Spontaneous, unintentional abortion: (a) From stimulation of uterine contractions; drugs, massage, electricity, douches, infectious diseases, syphilis, endometritis, decidual diseases, uterine displacements and distension. (b) From separation of egg; traumatisms, falls, strains, etc. (c) Death of fetus; obstruction of circulation in cord, disturbed placental function, placental detachments or infarcts, syphilis, acute infection of placenta. (d) Disease of fetus; development, acute or chronic (syphilis) infections.

II Provoked abortion: Therapeutic or criminal. Oxytocic drugs, massage, electricity, vaginal and intrauterine injections, sounds and tents, rupture of membranes, curettage.

Symptoms: Pain, hemorrhage.

Dangers: Infection. Hemorrhage.

Treatment: 1. Threatened (a) no infection, (b) with infection. 2. Inevitable (a) no infection, (b) with infection.

Extrauterine Pregnancy.

Definitions: Extrauterine; tubal, interstitial, isthmial, ampullar, ovarian, abdominal (secondary), cornual.

Pathology: Uterine; hyperemia, enlargement, softening, lateral displacement at times, formation of decidual. Tubal; irritation, hyperemia, hypertrophy; tubal decidua; expansion and thinning of tube; adhesion of fimbriæ, occlusion of morsus diaboli (eighth week); prolapse of tube and ovary; tubal abortion, intrauterine, up to fourth week; intraperitoneal abortion, up to eighth week; rupture of tube any time, first to fourteenth week.

Symptoms.—Before rupture: General: history of pelvic inflammation, sterility, general symptoms of pregnancy. Special: Amenorrhea, metorrhagia, polyuria, colicky menstrual pains, enlarged uterus, soft cervix, patulous os. At time of rupture: Intraperitoneal: pain, collapse, pulse and temperature, respiration, sweats, nausea and vomiting, syncope, hyperesthesia of abdomen, muscular rigidity.

Extraperitoneal: Same as intraperitoneal but modified. Displaced uterus, uterine hemorrhage, circumscribed tumor.

Marriages

J. H. MACKAY, M.D., Norfolk, Neb., to Miss Alice Dullin of Denver, March 17.

ARTHUR P. SQUIRE, M.D., Buffalo, N. Y., to Miss Bertha Rathwell of Varna, Ont., March 25.

H. WILSON LEVENGOOD, M.D., Jerome, Ariz., to Mrs. Grace Merry Keith of Portland, Ore., March 28.

FRANCIS E. ROSENBERGER, M.D., Eschiti, Okla., to Miss Emma L. Joiner of Dallas, Texas, March 28.

ALFRED E. BRADEN, M.D., Walla Walla, Wash., to Miss Edna Earle Hauser of Eureka, Ill., at Spokane, Wash., March 31.

WILLIAM DAWSON MORRIS, M.D., Jefferson City, Mo., to Mrs. Emma Waters Child, at Springfield, Dulaney's Valley, Md., April 2.

Deaths

George Washington Griffith, M.D. Long Island College Hospital, Brooklyn, 1866; a veteran of the Civil War; a member of the Kentucky State and Jefferson County medical societies; U. S. pension examining surgeon at Louisville; for many years medical director of the Kentucky G. A. R.; a member of the Louisville school board; for 12 years president of the board of aldermen; chief surgeon of the Louisville & Nashville Railroad, the Louisville Railway Company and the Louisville Bridge and Iron Company; visiting surgeon to St. Mary's and St. Elizabeth's hospitals; president of the Jefferson County Board of Health; for 30 years a member and for 22 years secretary of the board of trustees of the University of Louisville; died at his home in that city, April 10, from cerebral hemorrhage, after an illness of 24 hours, aged 67.

John Crawford Spear, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1861; who entered the U. S. Navy in 1861, and was retired in 1888 on account of incapacity resulting from incident of service; was made medical director, June 29, 1906, and whose latest station was at the Marine Recruiting Office, Philadelphia; a member of the Medical Society of the State of Pennsylvania and Montgomery County Medical Society; died in a hospital at Norristown, Pa., April 3, from injuries received in a runaway accident, aged 68.

James Redmond Healy, M.D. Bellevue Hospital Medical College, New York City, 1870; a member of the medical societies of the State and County of New York, Harlem Medical Association and Physicians' Mutual Aid Association; physician to the Tombs from 1871 to 1879, and medical superintendent of Hart's and Randall's Island hospitals from 1879 to 1892; died at his home in New York City, from mediastinal cancer, March 29, aged 59.

William L. Orr, M.D. Medical Department of the University of Iowa at Keokuk, 1859; surgeon of the Third Iowa Volunteer Cavalry and Twenty-first Iowa Volunteer Infantry during the Civil War; for four terms mayor of Ottumwa; at one time principal of the public schools of the city, alderman, city clerk and justice of the peace; died at the home of his son at Malden, Mass., April 1, from senile debility, aged 84.

William M. Cake, M.D. Jefferson Medical College, Philadelphia, 1850; surgeon of the Fifty-third Ohio Volunteer Infantry, and later the chief surgeon of the Fourth Division, Sixteenth Army Corps, Army of the Tennessee, during the Civil War; died at his home in Portland, Ore., April 1, from the effects of a fall received in January, aged 82.

James C. Molyneaux, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1885; of Woodland, Ill.; local surgeon for the Chicago & Eastern Illinois Railroad; died at the Augustana Hospital, Chicago, April 4, from tetanus, after the amputation of his leg due to a fracture received in a runaway accident ten days before, aged 50.

Henry A. Mumaw, M.D. Hahnemann Medical College and Hospital of Chicago, 1886; a member of the Indiana State Medical Association and Elkhart County Medical Society; founder of Elkhart Institute and Elkhart Normal School; died at his home in Elkhart, April 1, from nephritis, after a long illness, aged 58.

Harry B. Stone, M.D. University of Texas, Medical Department, Galveston, Texas, 1899; of Galveston, Texas; a member of the Hospital Corps, U. S. Army; in 1904 appointed quarantine officer at Virginia Point, Galveston; died from pneumonia at the U. S. Army Hospital, Governor's Island, N. Y., March 23, aged 35.

Frederick Corss, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1866; a member of the American Medical Association and of the American Academy of Medicine; died at his home in Kingston, Pa., April 1, from kidney disease, after an illness of several months, aged 66.

Randolph C. Hunter, M.D. University of Glasgow, Scotland; a surgeon in the Crimean War; one of the founders of Cooper Medical College, San Francisco, and for several years demonstrator of anatomy in that institution; died at Lexington, Ore., suddenly, January 21, from cerebral hemorrhage, aged 75.

Addison Russell Smith, M.D. Dartmouth Medical College, Hanover, N. H., 1892; at one time an alderman and city physician of Rockland, Maine, and attending physician at the Knox County General Hospital; died in a sanitarium in Patten, Cal., recently, from mental disease, aged 41.

Willis L. Snyder, M.D. Eclectic Medical Institute, Cincinnati, 1893; surgeon for the D., S. & U. and U. B. & N. railways; of Urbana, Ohio; died at the home of his father-in-law at Muncie, Ind., April 2, from aneurism, after an illness of a year and a half, aged 39.

Chester G. Higbee, M.D. Hahnemann Medical College and Hospital of Chicago, 1870; a veteran of the Civil War, and a member of the local pension examining board; died at his home in St. Paul, Minn., April 3, from cerebral hemorrhage, after an illness of five days, aged 73.

Edwin B. Allen, M.D. Medical Department of the University of Iowa at Keokuk, 1861; first mayor of Wichita, Kan.; twice secretary of state and a member of the legislature; died in Kansas City, March 30, from cerebral hemorrhage, after an illness of two months, aged 72.

John Fitzgibbon, M.D. Indiana Medical College, Indianapolis, 1875; a member of the Indiana State Medical Association and Daviess County Medical Society; died at his home in Washington, Ind., from erysipelas, March 30, after an illness of two days, aged more than 60.

Marcena A. Carroll, M.D. Western Reserve University Medical College, Cleveland, Ohio, 1881; a member of the American Medical Association; for nearly 16 years coroner of Mason County, Mich.; died at his home in Ludington, April 1, from pneumonia, aged 54.

Edmund Sanford Thomson, M.D. College of Physicians and Surgeons in the City of New York, 1892; of Belchertown, Mass.; died at the home of his father in that place, March 29, from purpura hemorrhagica, after an illness of less than a week, aged 40.

Frank J. Wakeman, M.D. College of Physicians and Surgeons of Kansas City, Kan., 1900; for two years physician to a mining company in New Mexico; died at his home in Kansas City, Kan., March 30, after a prolonged illness from tuberculosis, aged 33.

John Rea Creighton, M.D. Albany (N. Y.) Medical College, 1861; surgeon in a New York volunteer infantry regiment during the Civil War; died at his home in Spokane, Wash., March 27, from Ludwig's angina, after an illness of only a few days, aged 72.

Charles T. Bennett, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1871; of Battle Creek, Mich.; surgeon in the Civil War; died suddenly, April 1, in Nichol's Hospital, Battle Creek, from cerebral hemorrhage, aged 70.

Monroe Livingston Crosier, M.D. University of Vermont, College of Medicine, Burlington, 1877; a member of the Kansas and Leavenworth County medical societies; died suddenly at his home in Lansing, March 29, from angina pectoris, aged 56.

Joseph Francis O'Connell, M.D. Bellevue Hospital Medical College, New York City, 1878; formerly a police surgeon of Brooklyn; died at a hospital in Montclair, N. J., from heart disease, April 4, after an illness of nearly six years, aged 50.

Obediah T. Ellison, M.D. Albany (N. Y.) Medical College, 1856; said to have been the oldest practitioner in Potter County, Pa.; died recently at his home in Coudersport, where he had practiced for 52 years, aged more than 80.

Wilbur Gillett, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1879; an alienist of Detroit, Mich.; died in St. Mary's Hospital, Detroit, from cerebral hemorrhage, April 1, after a short illness, aged 56.

James M. Josey, M.D. University of Maryland School of Medicine, Baltimore, 1904; of Lamar, S. C.; died at the home of his mother, near Lydia, S. C., February 11, from tuberculosis, after an illness of several months, aged 28.

Hiram Langrehr, M.D. Jefferson Medical College, Philadelphia, 1859; a member of the Medical Society of the State of Pennsylvania and Philadelphia County Medical Society; died at his home in Philadelphia, March 15, aged 68.

Thomas J. Adams, M.D. Rush Medical College, Chicago, 1870; a member of the Indiana State Medical Association and Hendricks County Medical Society; died at his home in North Salem, recently, from paralysis, aged 70.

William W. Dailey (License, Ind., 1897); a member of the Indiana State Medical Association and Warrick County Medical Society; was found dead at his home in Selvin, Ind., April 7, from heart disease, aged 60.

Carlos Monroe Maxfield, M.D. Eclectic Medical Institute, Cincinnati, 1870; of Chicago and Waukegan, Ill.; was stricken with heart disease March 31, and died while being taken to a hospital in Chicago, aged 60.

Egbert D. McAfee, M.D. Vanderbilt University, Medical Department, Nashville, 1892; local pension examiner for Hardin County, Tenn.; died suddenly, March 27, at his home in Hamburg, aged about 40.

Isaiah J. Wireback, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1866; died at his home in Monessen, Pa., April 3, from paralysis, after an illness of three years, aged 68.

J. Allen Yates (Certificate, Texas, 1897); local surgeon for the Galveston, Houston & San Antonio Railroad at Marfa, Texas; died at his home in that place recently, and was buried March 7, aged 47.

William J. Pennington, M.D. Albany (N. Y.) Medical College, 1891; for ten years an inspector of the board of health of Brooklyn; died at his home in that city, from myelitis, March 30, aged 41.

Archibald D. McElroy, M.D. Cleveland Homeopathic Medical College, 1893; died at his home in McKeesport, Pa., March 27, from general nervous breakdown, after an illness of two years, aged 45.

William W. Hartsell, M.D. Hahnemann Medical College and Hospital of Chicago, 1883; the oldest practitioner of Rensselaer, Ind.; died suddenly on his farm, near that city, April 3, aged 59.

Henry E. Dwight, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1867; D.D. Washington and Lee University; died at his home in Philadelphia, April 1, aged 75.

Philip Merriman Egert, M.D. University of Vermont College of Medicine, Burlington, 1887; died at his home in Holland Patent, N. Y., April 1, from nephritis, after a lingering illness, aged 44.

Scott Wimbush Anthony, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1906; died at his home in Griffin, Ga., March 30, from tuberculosis, after a prolonged illness, aged 27.

James Shepard Cabanne, M.D. Jefferson Medical College, Philadelphia, 1856; of St. Louis; died in St. Vincent's Asylum, in that city, April 7, after a prolonged illness, aged 69.

Samuel V. Hopson, M.D. Louisville (Ky.) Medical College, 1875; died at his home in Wallonia, Ky., March 27, from Addison's disease, after an illness of two years, aged 54.

Walter S. Jones, M.D. American Medical College, Eclectic, St. Louis, 1887; local pension examining surgeon; died at his home in Medford, Ore., March 29, aged 42.

Robert Lindsay Harris (License, Ark., 1903); died at his home in Trenton, Ark., March 21, from the effects of a gunshot wound of the brain, self-inflicted, aged 28.

Carl Wuest, M.D. University of Giessen, Germany; a resident of Brooklyn for more than 50 years; died at his home, April 5, from senile debility, aged 81.

James T. Martin, M.D. College of Physicians and Surgeons, Baltimore, 1879; died at his home in Mendota, Va., April 3, from cerebral hemorrhage, aged 63.

Lee Lowengrund, M.D. Jefferson Medical College, Philadelphia, 1878; died suddenly at his home in Philadelphia, April 1, from heart disease, aged 55.

Mary Olive Ann Hunt, M.D. New England Female College, Boston, 1863; died at her home in Manchester, N. H., March 25, aged 88.

John A. Wilson, M.D. Kentucky School of Medicine, Louisville, 1881; died at his home in Nickerson, Kan., March 1, aged 57.

William C. Sweezey, M.D. Eclectic Medical Institute, Cincinnati, 1856; died at his home in Olivet, Kan., March 26.

John Nisbet Denny (License, Ind., 1897); died at his home in Ligonier, Ind., March 28, aged 73.

Death Abroad.

Karl Gustaf Lennander, M.D., LL.D., Hon. F.R.C.S. Lond. and Edin.; one of the leading surgeons of Sweden; professor of surgery and obstetrics in the University of Upsala; widely known through his writings on surgery and gynecology, especially on appendicitis and its treatment, and for his experimental researches on the sensibility of the abdominal cavity; whose paper on "Abdominal Pain" was read before the Section on Surgery and Anatomy of the American Medical Association at the 1907 meeting, Atlantic City; died suddenly March 15, from acute bronchitis, after cerebral hemorrhage, aged 51.

Book Notices

THE CONQUEST OF CANCER. By C. W. Saleeby, M.D., F.R.S., Author of Worry. Cloth. Pp. 361. Price, $1.75. New York: F. A. Stokes Co., 1907.

Thanks to the wealth of acrimonious discussion and to the appeal made to the public through the newspapers and the magazines, it is unlikely that the theme of Professor Beard's views as to the nature of cancer and the method of combating it is now unknown to any members of the medical profession. In brief, Dr. Beard, who, perhaps, it should be said, is professor of embryology at the University of Edinburgh, considers that the alternation of generations, which is known to occur in many forms of life, holds good for all, including the human race. In the latter, however, the life history of the alternating generation is lived through in the womb between conception and the development of the embryo, and thus has hitherto escaped discovery. Dr. Saleeby, in describing Dr. Beard's theory, says: "The common view hitherto has been that the union of the sexual elements produces a new single cell from which the new individual arises, there being no intermediate stage. On this new theory" [Beard's], "however, we assert that an asexual generation is interpolated—in other words, the fertilized germ cell does not directly give rise to a new individual but to this asexual stage, or larva, composed of the tissue called trophoblast. The new individual which is to become a human being is the child of this larvæ, and actually arises in, and upon, it." In the normal course of things, there ensues a "critical period," determined by the development of the pancreas in the embryo. When that begins to functionate, secreting alkaline digestive juices, these latter gradually cause the degeneration and ultimate disappearance of the surrounding trophoblast. Now, according to the theory of the "continuity of the germ plasm," the germ cells of the individual are not the products of the individual's own body, but germ cells that in the embryologic stage were formed in the division of the fertilized ovum, being, as it were, brothers and sisters to the other cells formed in the same process, and set apart to develop into the embryo. Some of these outside germ cells find their way into their brother or sister, the embryo, and become lodged and take up their separate life in their proper receptacles in the embryo's body, ultimately to become the progenitors of a new individual. But not all the trophoblastic germ cells that thus enter the embryo's body, avoiding the destruction by the pancreatic secretions, find their proper resting place; some go astray and become lodged in various parts of the embryo, there to degenerate, to remain quiescent throughout life, or, perchance, from some cause as yet unknown, to reinitiate their life cycle, reproducing the sexual stage, or trophoblastic tissue, at the site of their lodgment. Then we have a cancer, and hence follows Beard's deduction that "the digestive substance or substances which cause the degeneration of normal trophoblast will also cause the degeneration of abnormal trophoblast"—cancer—these substances being, as before stated, the alkaline pancreatic ferments.

This is the thesis that Dr. Saleeby has set himself to maintain in the work under review, which is written not only for the profession, but also, and apparently mainly, for the public, in continuation of the policy inaugurated by him in the monthly magazines and the London daily newspapers, of establishing the verities of science by the verdict of "the man in the street."

Dr. Beard's contentions consist of two separate propositions, which, though assigned by their author the relation of cause and effect, may yet conceivably stand or fall separately. His views as to the origin of cancer necessarily fall with his views as to the alternation of generations, and the nature of the trophoblast, though they do not with equal necessity stand with them. It is sufficient to say that they are not as yet, at any rate, generally accepted; indeed, they are traversed by most of his colleagues. On the other hand, his views as to the trypsin and amylopsin treatment of cancer—in which, by the way, he appears by recent published correspondence to have been preceded, both as to publication and practice, by Dr. Shaw Mackenzie—do not necessarily fall on the destruction of the hypothesis on which they are rested. Their verity can

only be ultimately settled by adequate observation and experience, and these they have been receiving in many places. While a certain number of observations are from time to time recorded that lend some color to the view that the method has a beneficial influence, in some cases at any rate, on the growth and distressing effects of cancer, the weight of evidence, so far, in the most trustworthy trials made by competent observers, under conditions calculated to minimize the sources of error, have failed to substantiate the claims so dogmatically advanced; and this not in one place only, but in several.

Regarded simply as a piece of dialectic by a controversialist, the book is indisputably clever; but regarded from the graver and more sober standpoint of facts, viz., as an effort to elucidate truth and to advance medical science, it is disfigured by a dogmatism, an exuberant enthusiasm, a passion, a bias, and a lack of judicial spirit, as well as by charges of prejudice, of disingenuousness—and worse, practically of conspiracy—against those who after careful trial have found themselves unable to consider Dr. Beard's contentions as to the cure of cancer by trypsin and amylopsin proved. The tone of the book is scarcely likely to aid the acceptance of Beard's views—though should experience justify them it will not prevent it—by the medical profession at large in his own or any other country. In this connection it may not be out of place to point out that in *Truth*, Jan. 22, 1908, there is found a half-page advertisement devoted to the exploitation of a preparation known as Sanatogen, of which it is stated—in a quotation purporting to come from Dr. Saleeby's own book, "The Will to Do"—"In Sanatogen Dr. Saleeby has discovered the golden means whereby phosphorus, the vital constituent of the brain and the nervous forces, can be administered so that the hungry tissues can take hold of their proper food and absorb it," with much more to the same purport. To this is annexed the information that "a limited number of complete specimen copies" of the aforesaid book "are available for distribution gratis, post free, on application to the publishers," with the significant addendum that "Sanatogen is sold by all chemists." This, it is true, has not much to do with cancer or Dr. Beard's treatment, but as regards the author's loudly proclaimed solicitude for "the cause of human life," to which his book on cancer is dedicated, it has an aspect that recent and present experiences in respect of other would-be benefactors to the cause of a suffering—and long suffering—public in this country have led us generally to look somewhat askance at. If we do Dr. Saleeby an injustice we are sorry, but in that case we can not exculpate him of "contributory negligence."

THE THIRTEENTH, GREATEST OF CENTURIES. By James J. Walsh, M.D., Ph.D., LL.D., Acting Dean and Professor of the History of Medicine and of Nervous Diseases, Fordham University School of Medicine. With Illustrations. Cloth. Pp. 436. Price, $2.70, postpaid. Catholic Summer School Press: New York, 1907.

Dr. Walsh's present work must materially modify prevailing conceptions as to the extent of the ignorance and darkness and the social submersion of the multitude, in that diversely estimated medieval period, the thirteenth century. The book gives a most comprehensive view of the conditions, literary, artistic, educational, social, legal and commercial, existing at that time. Most of us have been accustomed to believe, or at least were taught in our youth and are still repeatedly informed, that the period dealt with in this book was an age of intellectual darkness. To such it will be a surprise to learn that a far greater proportion of the entire population in those days enjoyed the advantages of the "higher education"—the best that the age could afford—than is the case to-day. We are told that in the thirteenth century the University of Bologna had a larger attendance than any university of modern times; and that no university in America to-day has anything like the number of students present at that date at either Paris, Oxford or Cambridge. In the chapter on "Postgraduate Work," the author cites instances mentioned in the well-known address of Professor Allbutt at the World's Fair, in 1904, on the "Historical Relations of Medicine and Surgery," in support of his contentions, and says: "Perhaps the most surprising thing is the simple statement that Salicet [William of Salicetus] recognized that surgery can not be learned from books alone. His case histories are instructive, even to the modern surgeon who reads them. His insistence on his students making careful notes of their cases, as the soundest foundation of progress in surgery, is a direct contradiction of nearly everything that has been said in recent years about medieval medicine, and especially the teaching of medicine." Walsh dilates on other points referred to by Allbutt, e. g., the discovery by William of Salicetus of the relations between *durities renum* and dropsy, thus antedating Bright by some five centuries, and this at a period when the physician was, according to many modern historians, "not supposed to occupy himself at all with ante- and postmortem studies of the patient, but with the old-time medical authorities."

The author attributes the widespread and persistent ignorance concerning the true character of the medical learning of the Middle Ages to two causes: First.—"The writers of the history of medical education have, until recent years, drawn largely on their imaginations, and have not consulted the old-time medical books. In spite of the fact that printing was not discovered for more than two centuries later, there are many treatises on medicine that have come down to us from this early time, and the historians of medicine now have the opportunity, and are taking the trouble, to read them, with a consequent alteration of old-time views as to the lack of encouragement for original observation in the later Middle Ages. These old tomes are not easy reading; but nothing daunts a German investigator bound to get to the bottom of his subject, and such men as Pagel and Puschmann have done much to rediscover for us medieval medicine." Second.—"The notion, quite generally accepted, and even yet not entirely rejected, by many, that the Church was opposed to scientific advance in the centuries before the reformation, so-called, and that even the sciences allied to medicine fell under the ban."

One other point in the present work deserves special comment here, viz., the subject of organized charity, and especially the foundation of city hospitals. We are so accustomed to regard the municipal care of the sick as having its origin in modern philanthropy, that it will come as a surprise to many to learn that it is to the first pope of the thirteenth century, Innocent III., that we owe the modern city hospital as we have it at the present time.—"With its main purpose to care for the acutely ill who may have no one to take care of them properly, as well as for those who have been injured or who have been picked up on the street, or whose friends are not in a position to care for them."

The author's considerations of the Science, Technical Crafts, Art, Literature, Law, and particularly of the Social Economics of that age, are even fuller than his consideration of medicine; so that from whatever intellectual standpoint he may view history the reader will be sure of finding much of interest in this illuminating work. The book making is in every way worthy of the literary contents.

CONFESSIO MEDICI. By the writer of "The Young People." Cloth. Pp. 159. Price, $1.25. New York: The Macmillan Co., 1908.

This is not a "confession," as one might suppose by the title. "I only want to confess what I have learned, so far as I have come, from my life, so far as it has gone," is the way the author explains it. The fact is, it is a group of essays on medical subjects—but not so intensely medical that the layman will not enjoy them. The first is on "Vocation," and his conclusion is that if a doctor's is not a divine vocation, then none other is and nothing is divine. "Hospital Life" is the theme of one chapter, and, by reading this chapter, one will be impressed that hospital life is a pleasant and profitable life for the medical student if he will but make it so. Every hospital is a charity; but there is a difference between charity and hospitality. They who give money to a hospital are charitable; we who have the spending of it are hospitable: "And of course it is we who get the fun out of the money. And we spend it well, entertaining in good style our innumerable guests." "An Essay for Students" is not a dry sermon, but a witty philosophic discourse on many subjects. One of these is "Psychology," which the author does not regard as a science by any means.

Under the caption of "A Good Example" is a delightful chapter on Ambrose Paré, who is set on a high pedestal—but none too high, considering his many and wonderful deeds—with a good broad base that can not topple over. And when one finishes this chapter, one wonders what Paré would have been and done had he lived in the twentieth and not in the sixteenth century.

"Practice," "The Discipline of Practice," and "The Spirit of Practice" are the titles of three chapters, and in them the author soliloquizes on a variety of subjects. Eddyism is one of them, and we are told that if we are to fight Eddyism we must make haste, for it will not long survive its founder. "It will die before it gets to the poor. Not that it shows any great anxiety to get to the poor, so long as it can get at the rich." In the chapter on "Retirement" we are told about "Velox," a man with a huge practice, going day and night. For thirty years he did without a holiday, never afraid of the day's work, the night calls, the meals obtained anyhow. For thirty miles around he was the man to have. In time of peril the cry was, "Send for Velox." Then he fell ill. "They fought it out between them; Death would not budge an inch for Velox, nor he for Death. Each had a long score against the other, run up at a thousand bedsides. The struggle was of unprecedented length and severity, till exhausted Nature finally separated them and declared that honor was satisfied. Velox was permitted to survive, to Death's disgust, but was compelled to retire, to Death's relief." And so Velox could not practice any more. "The bitterness of retirement, the full and sudden bitterness had come to him whose life's work had filled with sweetness so many lives."

The philosophy, the wholesome common sense, the wit, the human delightful charm of these essays can not be described. They must be read to be appreciated. Whoever the author is—we surmise he may be a London consultant, a "Velox," a surgeon—whatever he may be, he is a delightful writer of inspiring essays. Besides finding pleasure in the reading of this book, a physician will find profit also, for with the wit there is much of medical wisdom well worth having.

THIRTIETH ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH, AUGUSTA, GEORGIA. Pp. 97. Published by the Board, 1908.

The sanitary conditions of Augusta may be judged from the fact that not only are the white mortality returns low, but the negro returns also, which have gradually decreased from 36.68 per 1,000 in 1900 to 22.78 per 1,000 in 1907, show "the lowest death rate of our colored population since the days of slavery, and in all probability the lowest in the entire South." The report gives great credit to the colored physicians for the aid rendered by them in the establishment of better sanitary conditions among their own race. Free vaccine and antitoxin have been supplied when necessary, a charity demanded alike, as the report states, by humanity and self-interest. A system is in vogue regarding tuberculosis whereby physicians are invited to report their cases on the understanding that, unless at the instance of the physician, the department shall not interfere, merely reporting the case and disinfecting the premises on vacation or death. Here, as in most places, the peculiar susceptibility of the colored race somewhat swells the mortality statistics, though not to any disquieting degree. Typhoid shows no increase during the past four years.

DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, A.M., M.D., Professor of Laryngology and Rhinology, Jefferson Medical College. Fourth Edition, Revised and Enlarged. 219 Illustrations, 26 in colors. Cloth. Pp. 798. Price, $4. Philadelphia: W. B. Saunders Company, 1907.

About twenty-five new subjects are included in this edition, ranging from "taking cold" and lithemic rhinitis and the relation of voice to hearing, to surgery of the larynx including laryngectomy. Many chapters have been altered and enlarged to keep pace with the advancement of knowledge. Under such subjects as deformities of the septum practically every legitimate operation is fully described. As in previous editions, the etiology and pathology, and especially the relation between the local diseases and systemic conditions, are emphasized as the true guide to treatment. The author has maintained the excellent reputation of his text-book and it will be gratefully welcomed by student and specialist alike.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, CHICAGO, JUNE 2-5.

Arizona Medical Association, Tucson, April 28-29.
Medical Association of State of Alabama, Montgomery, April 21.
Medical Society of State of California, Coronado, April 21-23.
Med. Assn. of District of Columbia, Washington, April 28.
Med. and Chir. Faculty of Maryland, Baltimore, April 28-30.
Kansas Medical Society, Iola, May 5-7.
Ohio State Medical Association, Columbus, May 6-8.
American Therapeutic Society, Philadelphia, May 7-9.
American Association of Physicians, Washington, May 12-13.
State Medical Association of Texas, Corpus Christi, May 12.
Utah State Medical Association, Salt Lake, May 12-13.
Louisiana State Medical Society, Alexandria, May 12-14.
Montana State Medical Association, Butte, May 13-14.
Arkansas Medical Society, Little Rock, May 13-15.
New Hampshire Medical Society, Concord, May 14-15.
Oklahoma State Medical Association, Sulphur, May 14-16.

THE MEDICAL JURISPRUDENCE SOCIETY OF PHILADELPHIA.

Regular Meeting, held Feb. 17, 1908.

WILLIAM W. SMITHERS, ESQ., in the Chair.

Value of Present Practice Law.

DR. JOHN B. ROBERTS spoke on the subject, "What the People Have Gained Through the Present (Though Defective) State Examination Law." He stated that the present medical law has been of value to the public because:

1. It has made necessary a higher preliminary education before entrance on medical studies than existed before its enactment.

2. It has insisted on a four years' college course, with a diploma from a college having such a course before the candidate for license to practice in Pennsylvania can appear before the board.

3. It has increased the requirements in the curriculum of medical schools, and made the lower schools come up nearer to the standard of the higher schools before the students can pass the final examinations.

4. It has given the state indirect control, instead of no control at all over medical education.

5. It has prevented ignorant graduates of medical schools outside of Pennsylvania from coming to practice in Pennsylvania when rejected by other state medical examining boards.

6. It has prevented the repetition of the scandal due years ago to the notorious diploma mills which then existed in Pennsylvania.

7. It has encouraged other states to recognize licenses to practice medicine from boards of other states having similar requirements. Pennsylvania was the first state to incorporate a recognition of other licenses in its medical law.

Newspaper Publicity.

MR. EDMUND STERLING, of the *Public Ledger*, said that among the means most effective in tearing away the mask of convention and prejudice which obscures the truth and obstructs progress will be found unsparing publicity for every danger and evil. To enlist the interest of the people, the concrete facts concerning existing systems of medical examinations must be spread broadcast. If it be true that applicants rejected for incompetence and ignorance by one examining board are systematically passed by another board by reason of lower standards and lower educational requirements, publicity of the facts alone can prepare the way for the remedy. If it be true that the faculties of medical colleges called "sectarian" furnish almost the sole opposition to the reformation of conditions that menace the safety of the community, and that the movement for the correction of these evils is being met with vituperation and false accusation, publicity is the best corrective. The necessity of frank cooperation on the part of the medical profession in enlisting the support of an intelligent publicity was emphasized.

Regarding criticism of the average newspaper treatment of technical medical subjects, Mr. Sterling thinks it is for the medical profession to consider to what extent its own deliberate policy of silence and of aloofness from secular publicity can be held to account for conditions of which its members now complain so bitterly. It is the "closed door" that begets

inaccuracy and furnishes the temptation for the substitution of speculation and guesswork for the sober statement of the unadorned truth. He pointed out, however, that the situation will not be met by the creation of a bureau of publicity or by the appointment of a press committee through which information "fit to be printed" shall be filtered to all the papers simultaneously. As a specialist in its own field, the newspaper will have to continue to be the judge of what is "news." The great movements in medical science, the preparation of serums that are to save human life, the discovery of new methods of treatment that are to relieve suffering, are of value as news in direct proportion as they come fresh from the minds of those who conceive them. The plea was not made for a relaxation of the privacy that should be maintained between physician and patient, reference being made solely to the growing activities of the profession as a whole in which the community, with increased intelligence and understanding, has a vital interest. If it be admitted that newspaper publicity is an essential element in the success of any reform movement, the duty of those who are fighting for that reform is clearly marked out.

Commercialism in Medical Colleges.

DR. HENRY BEATES read a paper on "Some Facts Relating to Medical Education in the United States Demonstrated by the Operation of the Act Regulating Practice in Pennsylvania." He said that if there is one topic intimately associated with the forces and greatest possibilities of man, about which humanity, in general, is deplorably indifferent and ignorant, it is the economic value embodied in the relationship of medicine with humanity. Medicine—the healing art—is an existence determined by those inherent and material forces which are incident to being, and the inevitable consequence of the law of cause and effect. While afflicted humanity seeks relief through the medical profession, it is utterly indifferent to the degree of qualification which the practitioners of the art of this science may, or may not, possess. Unprincipled commercialism finds the blind and unsuspecting public ardent advocates of groups of individuals, who unblushingly deceive the authorities of commonwealths, and obtain charters and found medical colleges for commercial purposes. Medical education in the United States, it was asserted, finds its escutcheon defaced by the commercial renegades who take advantage of this public confidence and trust and most basely betray them. If there is one firm rock on which the qualification and success of medicine is based it is character. The meaning of "character," in matters institutional, is best appreciated by quotation from the legal definition of the term "reputable;" because, as is self-evident, a reputable institution—and consequently diploma in a legal sense—can be reputable only when conditioned on a fearless administration of the curriculum; and that can only be effected by a board of trustees, supervising a faculty, every member of which must be a man of character.

It is to be regretted that occasionally, in a faculty, there are found one or more members who are not individuals of character, who are party to a great variety of fraudulent schemes, constructed in order to deceive and to rob, whose certificates are documents framed with criminal intent; to effect injustice, perpetrate great wrong and accumulate illy gotten wealth. Just such faculties, it is declared, seriously affect the welfare and the interests of humanity and confer the medical degree on illiterate and ignorant students, who are thus robbed of four years of their life, and four years' money.

The Single Examining Board.

ADOLPH EICHHOLZ, ESQ., speaking on "Consolidation of Multiple Medical Examining Boards into one Board Required to Give Full Protection," cited the case of Dr. Buchanan and his medical diploma mill as an example of the almost incredibly loose methods regarding the qualifications of physicians prevailing in Pennsylvania a quarter of a century ago. While the act of 1893, creating three boards of examiners, was a step in the right direction, he believes the principle of the multiplicity of boards of examiners is entirely wrong. He advocates one board of examiners in which all the recognized "schools" of practice are properly represented, with the examinations in materia medica and therapeutics conducted by the respective representatives of the systems indicated. The examination on other knowledge recognized as requisite to an intelligent practice of medicine should be the same for all candidates.

He regards it as of the highest importance that the law at least attempt to give an exact definition of what is intended to be embraced under "practice of medicine." Nothing should be left to judicial interpretation. Further, the law should provide for the revocation of a license to practice where such continuance constitutes a public menace, as obtains in a licentiate who has become a habitual drunkard, or is addicted to a drug habit, or who has committed abortion, or who has been guilty of other dishonorable conduct likely to deceive the public. Forty-four states and territories have adopted laws framed substantially on the lines mentioned and found them to work satisfactorily.

DISCUSSION.

DR. HENRY W. CATTELL emphasized the importance of having incorporated in a new medical bill the provision whereby a practitioner may be debarred if he assumes certain habits or does certain things not becoming his oath taken when entering on the practice of medicine.

WILLIAM RIGHTER FISHER, ESQ., referred to the state board of law examiners as a creation of the Supreme Court. It is not in any sense a creation of the legislature, nor is it influenced by political considerations of any kind. None of the examiners have any clue whatever to the personality of the men who write the papers. There is a provision of the Supreme Court requiring that every candidate for registration as a student at law, no matter what may have been his preliminary advantages educationally, shall pass a preliminary examination before a board of examiners. While there has been much criticism against the requirement of such examination for a college graduate, it is the experience of the board that such examination is of the greatest importance. The effect of the examinations has been to stimulate the educational institutions. Mr. Fisher believes that a man who can not pass a rigid preliminary examination is not fit to undertake the study of medicine or law; that he has not the material in him.

DR. SENECA EGBERT agreed with Mr. Fisher on the value of the preliminary examination. The fault at issue, he feels, is not in the medical school, but in the school before it. He would not be sorry to have the state examining board examine every man who came into the medical schools of Pennsylvania. In the last four years the medical schools have been constantly asking to have the standards raised. Of the 258 applicants for the right to practice sent out by the Philadelphia schools only ten had failed.

DR. HENRY LEFFMAN said that there was another side to the question; the men were under strain and that their general education was obtained a number of years before they took the medical examination before the state board. He thinks it would be a great improvement if anatomy, physiology, chemistry and materia medica could be examined on at the end of two years and the other branches taken after the completion of the medical course.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Regular Meeting, held March 17, 1908.

DR. HERBERT S. CARTER in the Chair.

Cardiac Complications in Pulmonary Tuberculosis.

DR. LAWRASON BROWN, Saranac Lake, considered this subject from two standpoints: 1, The heart itself not diseased; 2, the heart itself diseased.

I. THE HEART ITSELF NOT DISEASED.

The position of this organ in patients with pulmonary tuberculosis depends directly on the pathologic changes in the lungs. Adhesions often prevent dislocation of the heart. In right apical lesions of some standing the right border of the absolute cardiac dulness is found three-fourths to one inch or more to the right, or about the middle of the sternum. When there is extensive cavity formation on the right; when a pneumo-

thorax or an effusion supervenes on the left; when the right lung is the seat of fibrosis consecutive to pulmonary tuberculosis, or, as some affirm, to pleurisy, the heart may be found entirely on the right side. Pulmonary tuberculosis is probably by far the most frequent cause of non-congenital detrocardia, but this usually develops only when the left lung is slightly affected and is not bound down by pleuritic adhesions. Contraction of the left lung or a pneumothorax on the right side may so greatly displace the heart that the point of maximum impulse may be beyond the left anterior axillary line. Many theories have been advanced to account for the smallness of the heart in pulmonary tuberculosis. Postmortem observations are not entirely satisfactory for the solution of this problem. Rueter, in 250 autopsies on patients with pulmonary tuberculosis, found a small heart in 29 per cent. of the men and in 56 per cent. of the women. Few observations indicating enlargement of the heart in pulmonary tuberculosis have been made until recently, and even some of these authorities have attributed the hypertrophy in many cases to alcohol. Palhier believes that hypertrophy occurs only when pathologic changes are found elsewhere in the body. In 200 autopsies at the Phipps Institute hypertrophy was present 13 times, six times of the left ventricle, two of the right and five of both. Emerson believes that if the general nutrition is maintained or is increasing, the general blood pressure remaining normal, and if there is a rapid heart action and an accentuation of the second pulmonic sound, cardiac hypertrophy is, in all probability, taking place, even though absent in clinical examination. Laennec, Louis and others found dilatation of the heart to be exceptional; it has been found more in acute types of the disease (Brun), especially when they occur in patients with chronic fibroid changes.

In acute miliary tuberculosis of the lungs dilatation and hypertrophy of the right ventricle is not rare, and is essentially a mechanical result, due to the impeded pulmonary circulation. Sequer, in 271 autopsies, found it present 21 times in patients with fibroid, 7 times in patients with ulcerative tuberculosis. At the Phipps Institute dilatation of the right heart was noted clinically in 9 per cent. of 1,491 patients, and at autopsy in 24 per cent. of 200 cases. According to Norris, it occurs clinically in 32 per cent., at autopsy in 21 per cent. of patients with pulmonary tuberculosis. Dilatation of the right side is often accompanied with hypertrophy of the right ventricle, which Jaccoud believes is favorable. The area of cardiac dulness was rarely changed in 1,289 patients at the Adirondack Cottage Sanitarium unless some valvular disease was present. In 53 cases absolute cardiac dulness was noted as absent.

A study of the heart of 1,289 patients at the Adirondack Cottage Sanitarium showed that 65 per cent. presented some slight deviation from normal. In 75 per cent. of the cases the heart sounds were found of normal relative intensity. A weakened first sound is rather frequent in well-advanced stages and is often more pronounced during acute attacks. Functional murmurs were present in 6 per cent. of these 1,289 cases, and in 2.6 per cent. of 639 at the Phipps Institute, but the latter were in much more advanced stages when such murmurs would seem more likely to occur. A systolic whiff due to compression of a cavity during systole is not very rare, and murmurs may be produced in cavities by the systolic distension of a large vessel or of an aneurism. Reduplication of the heart sounds has been rarely noted, occurring in only 1 per cent. of the 1,289 cases. Irregularity of the heart action, and a skip of the beat, is infrequent in the early stages. The pulse in tuberculosis is a very valuable guide, both for prognostic purposes and in the regulation of exercise.

The majority of the patients have at first a slight increased pulse rate (90-100), even when apyretic, and frequently when at rest in bed. The cause for the increased frequency is still unsettled. A neuritis of the vagus, the fall in blood pressure, irritation of the sympathetic, increased irritability of the cardiac ganglia or muscle fibers, myocarditis, anemia and dyspepsia, have all been suggested as factors. The most probable cause, especially in incipient cases, is a weakening of the cardiac muscle and its nervous control due to the tuberculous toxin. The blood pressure in many cases of pulmonary tuberculosis is lowered from the very onset and some have held that hypotension is present in the predisposed. Palpitation occurred in 21 per cent. of the 1,289 patients, but it is a rare thing for patients to complain of this symptom in the early stages.

II. THE HEART ITSELF DISEASED.

Heart disease developing during pulmonary tuberculosis may be found in the order of frequency, in the pericardium, the endocardium or the myocardium. Non-tuberculous changes in the myocardium are not infrequent at autopsy, but difficult to diagnose clinically. They are very rarely tuberculous in nature and consist of fatty degeneration, fragmentatio myocardia as well as hypertrophy of the muscle nuclei. Fatty degeneration may follow this muscular atrophy, but unless the pericardium is also affected, these changes often pass undetected, but when cyanosis, edema, dyspnea and a frequent and irregular, small pulse occurs, such changes are very probable. Adynamia is not common and occurs usually only late in fibrosis. Kidd believes that attacks resembling angina pectoris are only coincidences. The great increase in weight, which some patients who are kept perfectly quiet exhibit, must at times affect the heart.

Tuberculosis of the myocardium is very rare, occurring about once in 1,000 tuberculous autopsies. It has little clinical significance and is practically never diagnosed, except postmortem. It is said to occur most frequently in miliary tuberculosis, less often as large solitary tubercles, and more rarely still as a diffuse tuberculous fibrosis without caseation. These changes seldom produce functional disturbances. The disease usually extends by direct continuity from the pericardium or endocardium into the myocardium. The pericardium is said to be more frequently attacked in tuberculosis than the endocardium or myocardium. The symptoms are frequently very obscure and often overlooked. Out of 7,646 cases of pulmonary tuberculosis Norris found only 31 instances of pericarditis. Tuberculosis ranks next to rheumatism in the etiology of pericarditis. A tuberculous pulmonary cavity may, in very rare instances, perforate into the pericardium, producing pneumopericarditis. The occurrence of pericarditis naturally aggravates the symptoms of tuberculosis and the prognosis is unfavorable.

Clinically endocarditis is found associated with pulmonary tuberculosis much more frequently than pericarditis, but at autopsy it is less frequent. In 8,154 autopsies collected by Norris valvular disease was present 293 times. Records of 60,428 patients with pulmonary tuberculosis showed that valvular disease of the heart occurred in 1 per cent. of the cases. Endocarditis in pulmonary tuberculosis may be due to secondary organisms or to the tubercle bacillus. Endocarditis occurring during pulmonary tuberculosis is most often a late complication. Norris has no recollection nor any definite record of endocarditis developing in a patient with pulmonary tuberculosis. Tuberculous endocarditis is very rare, and many instances reported as such can not be accepted. It is not improbable that tubercle bacilli, circulating in the blood, may lodge in the valves in a pre-existing endocarditis. True tuberculous changes must be present in the vegetations or, if only miliary tuberculosis occur, they must lie above the elastic membrane to uphold a diagnosis of tuberculous endocarditis. Tuberculous endocarditis is so rare that it has no clinical significance and has seldom been diagnosed antemortem.

Thrombi in the right ventricle are rarely diagnosed antemortem, and rarely occur in acute cases, but usually are found late in chronic cases. They are due to changes in the endothelium, to stasis and to changes occurring in the blood. Warthin found thrombi in 10 per cent. of his tuberculous patients. A sudden onset of dyspnea with crises of suffocation and a tumultuous heart action are suggestive of this condition. Syncope or pulmonary apoplexy may occur. In more than 3,000 patients who have been more or less closely followed for a number of years, Brown has yet to see an instance where undoubted valvular disease developed in a patient with pulmonary tuberculosis, unless he was in a far advanced stage of the disease. A smaller number of patients with cardiac disease present signs of pulmonary tuberculosis than are found in the general population. Meisenberg concludes that given

either endocarditis or pulmonary tuberculosis the other is less frequent than usual. Otto believed that cardiac disease is more frequently associated with pulmonary tuberculosis in women than in men, but 4 cases out of 6 which Brown has had were men. The left side of the heart is usually affected. The disease of the mitral valve is much more frequent than that of the aortic and both are more often affected singly than together. Pure mitral insufficiency is the most frequent lesion associated with pulmonary tuberculosis, but it does not apparently predispose to pulmonary tuberculosis. The age incidence of this lesion and of pulmonary tuberculosis coincide. In 36 instances of "organic murmurs" at the Phipps Institute pure mitral insufficiency occurred 24 times and was present in connection with other murmurs 7 times. In 77 instances of valvular disease in connection with pulmonary tuberculosis, Brown found pure mitral insufficiency 44 times. In 4 other cases it was associated with other lesions. It seems, if well compensated, to exert little influence on the course or the symptoms of pulmonary tuberculosis. Mitral stenosis is far less frequent than insufficiency, and pulmonary tuberculosis is far less frequently associated with it than with other forms of heart disease. Patients with mitral stenosis often do remarkably well. Aortic insufficiency is much rarer than many authorities have stated and occurs, according to Meisenberg, in 5.4 per cent., according to Norris in 3.6 per cent. of all cases with lesions in pulmonary tuberculosis. Neither inhibiting nor predisposing influences have been attributed to it. De Renzi and others believe that this type of valvular heart disease is the most frequent in pulmonary tuberculosis.

Aortic stenosis is, as would be supposed, less frequent than insufficiency, judging from both the clinical and autopsy records. Meisenberg saw it twice in 4,649 cases of pulmonary tuberculosis and Ruck once in 3,009. Brown has seen no instance of it. Pulmonary stenosis is rare, occurring, according to Norris, in 0.12 per cent. of patients with pulmonary tuberculosis and in 4 per cent. of patients with pulmonary tuberculosis and cardiac disease. Pulmonary stenosis predisposes to pulmonary tuberculosis. Pulmonary stenosis is always the primary disease, mitral insufficiency and aortic insufficiency usually the secondary. Pulmonary tuberculosis occurs more frequently in patients with pulmonary stenosis than in any other form of cardiac disease. Mitral insufficiency is associated with pulmonary tuberculosis more often than any other form of valvular disease. Aortic stenosis is very rarely associated with pulmonary tuberculosis. Involvement of several valves simultaneously is rare in these cases. Heart disease may render the diagnosis of tuberculosis difficult and in many instances impossible.

The treatment of the various forms of valvular heart disease occurring in connection with pulmonary tuberculosis differs in no way from that employed in ordinary cardiac disease. Arsenic, strychnin, ice-bag over the precordium, carbonic acid baths, and rest are of value. Nitroglycerin may give relief. Excitement, alcohol and tobacco should be avoided.

Cerebral Complications of Ulcerative Endocarditis.

DR. THOMAS B. FUTCHER, Baltimore, reported two cases of cerebral embolism complicating acute ulcerative endocarditis. In the first case there was an embolic or thrombotic obstruction of the posterior inferior cerebellar artery. As a result of the obstruction of this vessel, the foci of softening are always situated in the dorsal and lateral aspect of the medulla and these structures are more or less involved, viz., the lateral aspect of the reticular formation; the descending root of the fifth nerve and its nucleus; Gower's ventro-lateral ascending tract; the direct cerebellar tract; the inferior cerebellar peduncle and the fibers going to it. In the second case there was a blocking of the middle cerebral artery, with a hemiplegia of the opposite side.

Dr. Futcher presented an analysis of the cases of cerebral embolism in ulcerative endocarditis that had occurred in the medical wards of Johns Hopkins Hospital since May 15, 1889. Up to March 1, 1908, there had been 22 cases of cerebral embolism complicating acute endocarditis. In all of the cases there were marked cardiac features indicative of an acute endocarditis, with definite evidences of valvular lesions on physical examination. There was a hemiplegia in all but one case; in this there was a monoplegia of the arm. During these nineteen years there were 22,300 medical admissions to the wards, and during this period there were 48 cases diagnosed as ulcerative or malignant endocarditis, so that cerebral embolism occurred in 45.8 per cent. of the cases. In addition to the 48 cases of ulcerative endocarditis there were 122 cases diagnosed acute endocarditis, making a total of 170 cases with an acute endocardial process. In other words, out of 170 cases of acute endocarditis cerebral embolism occurred in 22 instances, or in 12.9 per cent. There were 10 males and 12 females. The largest number of cases, 7, occurred in the fifth decade. The cases were chiefly in the young adults, 13 occurring before the fortieth year, before arterial changes would be likely to occur. The predominating number of cases showed an affection of the mitral valve. Clinical signs of mitral stenosis and insufficiency occurred in 19 of the cases. In 3 there was also aortic insufficiency. The hemiplegia was left-sided in 10 cases only. A. Ernest Jones found that in 13 autopsies on cases of cerebral embolism in the University College Hospital, London, 8 were on the left side and 5 on the right. Out of a total of 558 cases he collected from the literature 236 were right-sided, and 322, or 60 per cent., were left-sided. The duration of life after the initial embolism in the fatal cases varied between two days and ten months. In their wards there have been 220 cases of hemiplegia, and in 21 of these the lesion was due to cerebral embolism. This would leave 198 cases in which the hemiplegia was due to apoplexy, cerebral thrombosis, tumor or meningitis.

Clinical Features of Myocardial Disease.

DR. ALFRED STENGEL, Philadelphia, discussed the clinical aspects of myocardial disease from two points of view, (1) of the heart itself, and (2) of the individual pathologic lesion. Weakening of the heart, failure of heart power, chronic insufficiency of the heart, or hyposystolism showed itself by symptoms referable to the heart itself, but were so often vague as to lead to mistakes in diagnosis. The subjective symptoms were the early expressions of this weakening of the heart muscle; the myocardium resented the ordinary strains of life. Of the visceral manifestations hepatic symptoms were the most common, and enlargement of the liver often took place a long time before there were evidences of failing compensation. Cyanosis, edema, dropsical conditions, etc., occurred later in cases of myocardial disease than in valvular disease. In some cases of myocardial disease there occurred only the general symptoms, nutritional and neurotic. In many cases these were the earliest manifestations. Myocarditis had its origin in infectious diseases, rheumatic fever, infections of later life, strains of a severe nature occurring in early life, etc. In simple, pure endocarditis there were the same symptoms which were said to be significant of a weakened heart in general. Bradycardia, occurring after typhoid fever, was due to a myocardial weakness. In simple myocarditis the heart might attain a large size, such as described by Quain. In chronic myocarditis there might be an enlarged heart with inadequate apex impulse. Again, there was a type of cases in which the heart was enlarged but with a strong impulse; in this the heart muscle fibers were in a relaxed condition and gave a "slapping impulse." There was much slack to be taken up. In pure chronic myocarditis one found a prolonged vibrating first sound which was easily transformed into "murmurish."

There was another group of cases associated with sclerosis, with angina and with paroxysms of asthma, not occurring spontaneously. The effect of exercise on the heart in developing an attack of this nature was the same as the effect of exercise on the leg muscles in developing cramps and weakness of the legs. One of the most difficult things to diagnose was pure degeneration of the heart, and a diagnosis of fatty degeneration was impossible except conjecturally. There was a fibrous degeneration which occurred in patients with fibroid tumors of uterus and adnexa, and oftentimes sudden death after myomectomy resulted because of this. Enlargement of the heart was associated with syphilitic disease of the heart.

DISCUSSION.

DR. W. GILMAN THOMPSON said it was interesting to note how much displacement of the heart could occur without any special functional disturbances. He had watched experiments made by the late Dr. H. P. Loomis at Bellevue Hospital, injecting nitrogen gas to produce an artificial pneumothorax in order to compress the lung; he had seen the heart displaced to the opposite side in the course of twenty minutes or more without producing any special disturbance or discomfort. Patients at Bellevue Hospital had, as a rule, been subjected to deprivation, were alcoholics or syphilitics, and there were other underlying factors which weakened their resisting powers; therefore, they acquired tuberculosis more readily. Bradycardia might result from a neuritis of the vagus nerve, but this was a matter for clinical debate and not of actual demonstration.

DR. ALEXANDER LAMBERT said that in looking over more than 125 autopsy records at Bellevue Hospital he could not find a single instance where a normal heart was found in an alcoholic.

DR. HENRY KOPLIK said it was rare for a child to suffer from myocarditis, pure and simple. The heart symptoms following acute infectious diseases in adults, if present in children, would be most serious. In children myocardial diseases were always very serious.

DR. L. F. BISHOP said that there were many symptoms supposed to be due to myocardial disease; but in the light of recent studies were now known to be due to peripheral disease with reflex symptoms referable to the heart.

DR. THOMAS B. FUTCHER said he knew of no instance of hemorrhage occurring in ulcerative endocarditis.

DR. LAWRASON BROWN said that among 1,300 cases referred to there were but 6 of valvular disease, 4 mitral and 2 aortic insufficiency. Five or six cases sent to the sanitarium with a diagnosis of pulmonary tuberculosis were really cases of cardiac disease.

BOSTON MEDICAL LIBRARY MEETING.

Regular Meeting, held Feb. 19, 1908.

DR. RICHARD C. CABOT, Chairman.

Serum Treatment of Cerebrospinal Meningitis.

DR. SIMON FLEXNER, director of the Rockefeller Institute for Medical Research, referred to the epidemic two years ago, in New York City, during which there occurred 5,000 cases, with a mortality of 70 per cent. Many peculiarities of the meningococcus were noted. It was found that the effects on guinea-pigs were not like those on man. Experiments with goats succeeded occasionally only. Hence, they turned to the use of monkeys. The most virulent strains of the germs were employed. These lose their pathogenicity in cultures, and do not recover it by being passed through animals. Sometimes they are efficient for months, and then suddenly become inactive. Hence, they must be tested constantly.

The lesions in monkeys resemble those in man both macroscopically and microscopically, but in monkeys there is more involvement of the central nervous system, shown by a high degree of encephalitis. Death ensues so rapidly as to suggest that it is by the contained poison instead of by any elaborated one.

It is more difficult to check the disease in monkeys than in men. Goat's serum was found to be fatal to monkeys. Hence, a monkey was immunized, and after eight months the serum obtained was used in testing. The five control monkeys died within twenty-four hours. One monkey, given serum one hour before the dose fatal to the others, had no symptoms. One, given serum mixed with the dose fatal to the others, had no symptoms. Two monkeys, given serum as late as six hours after symptoms appeared, survived, and one monkey who received the serum died.

Encouraged by these results, they began to immunize a horse, and after eight months this serum was first tried on man. At first the dose was small, 5 c.c.; later it was increased to 10 c.c. and 15 c.c., and then still larger. Always it has been injected directly into the spinal canal.

An epidemic in Ohio gave the opportunity for a test. Soon there appeared a report of 40 cases treated, with 29 recoveries and 11 deaths, a mortality of 27.5 per cent.

To these 40 cases have now been added 17 cases in New York, with 12 recoveries and 5 deaths; 20 cases in Boston, with 17 recoveries and 3 deaths; 15 cases in Philadelphia, with 9 recoveries and 6 deaths; 3 cases in Baltimore, with 2 recoveries and 1 death; 30 cases in Belfast, with 22 recoveries and 8 deaths; 5 cases variously distributed, with 4 recoveries and 1 death. This makes a total of 90 cases not reported before, with 66 recoveries and 24 deaths, or a mortality of 26 per cent. The total of all reported cases up to the present is 130 cases treated, with 95 recoveries and 35 deaths, a mortality of 27 per cent.

The reports from Belfast are from an epidemic where the mortality had been over 70 per cent. The serum was administered during the months of September, October, November and December, 1907, with the results above stated. During the same period 34 other cases, studied by the same physician, were not so treated, and of these 29, or 85 per cent., died.

In 22 cases the serum was given within seventy-two hours of the onset of the disease, and of these patients 16 recovered. Of 25 patients who recovered, 12 did so by crisis and 13 by lysis.

Dr. Flexner stated that good results may be obtained even though the fluid in the canal is thick pus. The number of germs decreases, the extracellular ones disappear, the intracellular ones change, swell, stain badly and do not grow. They may persist for some time, but they do not grow. The fluid itself rapidly clears up. Relapses do occur. Germs are then abundant, but if the serum has previously been injected, the peculiarity that they will not grow persists. Cases may terminate by crisis as late as the fifth week.

It is believed that the meningococcus does not elaborate a soluble toxin. The toxin is within the cellular organism. By the autolytic action of a ferment, the germ disintegrates rapidly and early and this toxin is set free. The experiment can be tried and proved artificially by the use of toluol. The amount of antibodies present is very small. The whole action of the serum is not clear. It does to some extent neutralize the poison, but by no means as the antitoxin of diphtheria neutralizes the toxin elaborated by the Klebs-Loeffler bacillus. Here the poison is an endotoxin, and the chief value of the serum seems to be that it increases phagocytosis. Within the phagocytes the toxin is broken up apparently and rendered harmless.

The serum is injected intraspinally, for here it chiefly acts, not subcutaneously or intravenously. Concentration is necessary, and can not be obtained otherwise. Hypersensibility of the spinal canal is not feared. There is danger of causing an abscess in the skin and subsequent infection of another germ. Hence the need of most careful asepsis.

DISCUSSION.

DR. CHARLES HUNTER DUNN reported the details of 15 patients treated by him in or near Boston. Eight have made complete recoveries; 2 have died and 5 are still pending. The two fatal cases were both treated late and were moribund. The same is true of one of the pending cases. The patient is now not doing well. The other four are fairly convalescent and barring a relapse will make good recoveries. Only one patient has the sequel of deafness, and is the only one to have any sequel whatever. Two cases ran a long course. Usually the temperature has fallen sharply and the symptoms have rapidly disappeared. The dose was 30 c.c., repeated daily for three or four days, if needed. No harm has resulted. Abortion of the disease, before unknown, is common. Recovery is nearly always complete. The serum should be given early, without waiting for a bacteriologic report if the fluid from the canal is cloudy. Inject at once the same amount as has been removed. Late cases are helped if the fever persists and germs are present.

DR. JOHN L. AMES reported 6 cases treated with the serum at the Boston City Hospital. All were typical cases, severe, on the dangerous list. Four showed the meningococcus present in the spinal fluid; in one no germ was found and in one the

pneumococcus was present. This last patient died. Another fatal case was a fulminating case. The patient was treated within thirty-six hours, but showed no improvement. The other three patients recovered. One of these showed swelling of the lymph nodes of the neck and groin, and an arthritis. Treatment in this case was begun on the third day and consisted of 30 c.c. of serum, given daily for four days. From 1890 to 1906 there have been treated at the Boston City Hospital 166 cases of cerebrospinal meningitis, of which number 120 (72 per cent.), terminated fatally.

DR. WILLIAM T. COUNCILMAN spoke briefly of the epidemic in Boston in 1897-8, where the mortality was about 66 per cent. Dr. Flexner's work, he said, gives much promise for the future. This is the first serum to be efficient against an endotoxin. Probably there are many others to be yet discovered. The number of meningococci varies greatly in different cases. Specially abundant are they in foci in the lungs from 1 to 2 cm. in diameter, filled with pus and masses of germs.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Feb. 12, 1908.

The President, DR. ALBERT M. EATON, in the Chair.

Zander Gymnastic Method of Treatment.

MR. MAX J. WALTER described the Zander system of medico-mechanical gymnastics invented by Dr. Gustaf Zander of Stockholm, Sweden, in 1857. In this system of gymnastics, better execution and precision of exercises is obtained by means of mechanical apparatus, and by his ingenious construction he has solved the question of replacing the executor of resistance by an exact uniform working power, which is, at any time, in sufficient quantity, at the disposal of the physician and allows him to determine accurately and to control the force of the exercise. Remedial gymnastics have, therefore, the advantage of exact dosage. The apparatus consists of active machines, where the patient performs the exercise himself against certain resistance; passive and balancing machines where the exercises are performed by a force outside of the patient; machines for mechanical massage, and machines for orthopedic and corrective gymnastics.

For the physiologically correct execution of muscular exercise it is of importance to bear Schwann's law in mind, that a weight which a muscle can lift during the continuation of its contraction is gradually decreasing, and at its maximum point is relatively small. On the Zander machines we find that, according to Schwann's law, the resistance decreases during the second half of the contraction; the amount of resistance and the amount of muscular work to be done are exactly parallel during the different consecutive stages of muscular contraction. Muscular power and muscular task are thus always in the right proportion to each other. Experience has shown that regular muscular exercises with progressive exertion do not only develop and strengthen the muscle, but also remove morbid changes in the tissues, strengthen the nervous system and accelerate the circulation of the blood and lymph, as well as enhance the functions of many organs. The author regards it, therefore, as self-evident that these exercises should be introduced among the auxiliaries of therapeutics.

Chronic Disabilities Treated by the Zander Method.

DR. J. MADISON TAYLOR regarded chronic disabilities as the most troublesome disorders encountered by the physician. All are relievable and many are curable, but only by exhibiting resourcefulness, patience, thoroughness in estimating contributory causes, and in securing adequate cooperation of the patient. Active exercises accomplish most, but many, especially aged, sedentary individuals are unwilling, unable or organically unfit to perform them. A masseur, while best for them, may not be available. In these cases Zander's machine gymnastics are very useful. The essential prerequisite of organic competence is a fair measure of elasticity, especially in the supporting structures. Where activities are not feasible by voluntary stretchings, torsions, rotations. Dr. Taylor regards the Zander machines peculiarly adapted to gradually produce this elasticity. Hence, the patient may receive much better results from massage and gymnastics—passive and active—and be led on to open-air life. Furthermore, by a course with the Zander machines a stiffened, water-logged patient, disabled by contractures, adhesions, partial ankyloses and stases, is placed in a condition of organic regeneration by which the normal responses to other remedial agencies are greatly encouraged.

DR. S. SOLIS-COHEN said that there are innumerable methods infinitely superior to any drug in the Pharmacopeia—in certain cases. On the other hand, there are many cases in which some of the drugs are far superior to other means. Thus the physician has at his command all the resources of nature and of art. He insists on having abdominal massage done by a skilled and intelligent operator, and at first under his own supervision, not indirectly through steel and wire, but directly through the sensitive finger tips. Only the human hand could tell when to avoid, relax or increase pressure. He considers all machines inferior to the human hand under ordinary conditions. There are, however, some extraordinary conditions in which machines are superior, among which are adhesive conditions about the joints. The psychic influence also in submitting to the mechanical treatment is a valuable element. The physician has no right to prescribe mechanical treatment vaguely, but should watch his patient in the first application as carefully as in the first administration of mercury to a patient whose idiosyncrasies he does not know.

DR. E. A. NEWTON believes that much can be done with such machines in beginning stiffness of joints, soreness of muscles, etc. With old adhesions he considers the hand preferable.

DR. R. TAIT MCKENZIE pointed out as disadvantages of the Zander machines, the unintelligence in comparison with the educated hand, and the enormous expense of installing. As advantages were mentioned accuracy of movement and of dosage.

Medicolegal

Statute Must be Followed in Defining Practice of Medicine.

The Supreme Court of Arkansas says, on the appeal of Foo Lun vs. State, where the party appealing had been convicted of practicing medicine without first having procured a certificate and license as prescribed by the statutes, that a witness named Montgomery testified for the state: "I went up and got some medicine from defendant, paid him, and he gave me a receipt. I was requested by the medical board to go there to get evidence to see whether or not he was practicing medicine. He asked me my symptoms. He has an office something like a doctor's room." Cross-examination: "I answered the questions he asked me. He felt my pulse, and asked me if I had pains. I did not ask him to feel my pulse or tell him I had stomach trouble. I acted as a detective. He didn't tell me he only sold medicines, but he told me to take this until Wednesday. I saw other persons in the waiting-room." The state then introduced the county clerk, who testified that there was no certificate of the state board allowing the defendant to practice medicine. This was all the evidence. There was a jury trial and a verdict of guilty.

A reversal of this case was asked on the ground that the trial judge had erred in instructing the jury that "by the term of 'practicing medicine' it is meant to charge a person who undertakes to consider the nature of the ailment of a patient and to prescribe for him a remedy therefor; and if you find from the evidence in this case that defendant examined into or in any manner considered the physical ailments as represented to him by the witness Montgomery, and prescribed or attempted to prescribe a remedy therefor, you will find him guilty." The Supreme Court agrees that in this there was cause for reversal.

A number of the states, the court says, have passed statutes regulating the practice of medicine. In some instances the legislatures have undertaken to define what is meant by the phrase "practice of medicine." In others they have not. In

cases where the legislatures have not undertaken to define the meaning of the phrase it has been construed to be used in its ordinary and popular sense. In cases where the words "practice of medicine" have been defined by the legislatures, the definition has been followed by the courts.

Section 5243 of Kirby's Digest (the Arkansas statute) provides that "any person shall be regarded as practicing medicine, in any of its departments, within the meaning of this act, who shall append M.D. or M.B. to his name; or repeatedly prescribe or direct, for the use of any person or persons, any drug or medicine or other agency for the treatment, cure or relief of any bodily injury, deformity or disease." The court thinks it was the intention of the legislature to define the crime by the use of the language quoted. The statute defines practicing medicine as repeatedly prescribing or directing, etc. The trial court erred in giving its own meaning to these words in the instruction quoted, and in not defining them in the meaning of the statute. It was the duty of the court to give effect to the intention of the lawmakers as embodied in the statute.

Construction and Sufficiency of Petition in Action for Malpractice.

The Court of Appeals of Kentucky says that in the alleged malpractice case of Blackburn's Administrator vs. Curd, the plaintiff's petition stated that the "decedent (Leon Blackburn) was a stout, able-bodied person, and in good health, but had a growth on his head, which the defendant after an examination thereof pronounced a tumor; that said growth was on the right side of the top of the head, and was about the size of an egg; that the defendant, after examining the same, advised his intestate (Leon Blackburn) to have it removed, and assured him that the removal thereof would not endanger his life or health, or give him any trouble longer than a few days —at most not longer than two weeks; that after the said examination and assurance by the defendant his intestate in the month of July, said year, engaged the defendant to perform said operation and entrusted same to him; that the defendant performed said operation and undertook the treatment of the deceased after said operation was performed, and for that purpose had his intestate visit his office, and he visited the home of said decedent. Plaintiff says that the directions given by the defendant as to the care and attention to be given the incision on the head of the deceased, where said operation was performed, were carefully followed by the deceased and the members of his family; that the services of the defendant in the treatment of deceased were continued and exclusively relied on by the decedent and the members of his family until the defendant failed to attend decedent when sent for for that purpose, and neglected properly or at all to treat the decedent for several days, to wit, three days, during which time defendant was sent for to attend deceased, and was notified by the messenger sent after him that the deceased was suffering greatly and badly in need of proper attention by the defendant; that defendant failed and refused to attend or treat deceased during said three days, and because of said failure and his neglect to bestow proper and ordinary care, skill and diligence on the deceased after said operation was performed and during said three days his intestate got into such a condition from the effect of such failure and neglect that he was beyond any relief which other medical or surgical aid could render, and died therefrom on the eighth day of September, 1905. Plaintiff says that through and by reason of the carelessness and negligence of the defendant his intestate lost his life, to the damage of the plaintiff in the sum of $10,000."

The defendant demurred to the petition, and, by his general demurrer, admitted every material fact alleged in the petition. His counsel contended that the petition was defective and insufficient, for the reason that it was only alleged therein that the directions given by the defendant as to the care and attention to be given the incision on the head of the deceased, where the operation was performed, were carefully followed by the deceased and the members of his family; that this limited care and attention to the wound on the head and the directions of the defendant with reference thereto; that this language implied that the defendant gave other directions which were not followed. But in the court's opinion this point was not well taken. The incision on the head of the deceased made by the defendant was the thing to be treated by the defendant, and it was to be presumed that the directions of the defendant with reference to the care and attention were all given to that end, and as the effect of the allegation in the petition that those directions were followed by the deceased and the members of his family it was not necessary to allege minutely all the directions and advice given to accomplish a cure.

The second proposition was that the petition was insufficient for the reason that it was not alleged that another physician could not be obtained to treat the deceased when the defendant failed to treat him. A contract, or such a state of facts as made it obligatory on the defendant to continue to treat the deceased, were alleged, and that he failed to comply therewith and render the proper and necessary treatment to the deceased, by reason of which failure the deceased was injured. This stated a cause of action against him. The matter contended for might be pleaded by the defendant.

For these reasons the judgment of the lower court sustaining the demurrer and dismissing the plaintiff's petition on the ground that it did not state a cause of action, was reversed, and the cause remanded for further proceedings consistent herewith.

A Corporation Is Allowed the Same as Hospitals Are to Engage in the Business of Contracting for the Practice of Medicine.

The St. Louis Court of Appeals had, in the case of State vs. Lewin and others, a quo warranto proceeding to oust the respondents, and all others acting conjointly with them, from the exercise of the privileges of an incorporation under the name of a hernia cure company. The information charged that under said name the respondents claimed the right and privilege to furnish treatment for hernia and medical and surgical treatment for all other diseases, accidents and deformities, and as such pretended corporation exercised the right and privilege of engaging in the practice of medicine and surgery, treating hernia and all other diseases, accidents and deformities without any legal warrant, franchise, charter or grant. In the return to show cause the respondents disclaimed that the company claimed the right or privilege of engaging in the practice of medicine, but set up that the company claimed the right of engaging in the business of contracting for the practice of medicine. It was alleged therein that the respondents were duly incorporated under the laws of the state of Missouri, and that the charter specifically empowered the corporation in the following: "The company is formed for the purpose of furnishing treatment for hernia and medical and surgical treatment for all other diseases, accidents and deformities." The trial court sustained a motion for judgment on the pleadings and rendered judgment for the respondents, from which the state appealed, and which is here affirmed.

The Court of Appeals says that it was conceded by the respondents that a corporation could not be organized to practice medicine in Missouri. The state's contention was that the corporation was indirectly practicing medicine, as shown by the return, in this: that a physician who owned 98 of the 100 shares of the capital stock of the corporation, was its superintendent and was employed by it to practice medicine. It contended that power granted the corporation to furnish medical treatment meant that it might practice medicine through its human agencies. The respondents' contention was that the power granted the corporation was only contractual; that is, it was only authorized to furnish regularly licensed physicians to treat parties who might apply for treatment. These contentions could only be settled by a proper judicial construction of the term "furnish," as used in the charter of the corporation. If it meant to give, then the charter conferred the power on the corporation to practice medicine, and was void. But the court thinks that the word "furnish," as used in the charter, should be construed to mean "supply." The corporation was not restrained by its charter from entering into contracts with persons to supply medical treatment, nor from entering into contracts with physicians to render medical and

surgical services, and had, in this respect, the same right to contract as a private individual.

In all the larger cities, and connected with most of the medical colleges in the country, hospitals are maintained by private corporations, incorporated for the purpose of furnishing medical and surgical treatment to the sick and wounded. These corporations do not practice medicine, but they receive patients and employ physicians and surgeons to give them treatment. No one has ever charged that these corporations were practicing medicine. The respondents were chartered to do, in the main, what these hospitals are doing every day—that is, contracting with persons for medical treatment and contracting with physicians to furnish treatment—and the fact that the physician referred to was the principal stockholder and the manager of the respondent corporation, and was employed by it to furnish medical and surgical treatment to the patients who might contract with it for such treatment, did not alter the legal status of the corporation, or show that it had violated the terms of its charter.

The corporation, as before stated, expressly disclaimed the right to practice medicine, and the court concludes that it had a right to do what the return said it was doing, and affirms the judgment in its favor.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

April 4.

1 *Deep Intraocular Lesions of Infantile Inherited Syphilis and Tardy Inherited Syphilis, from the Standpoint of General Pathology, Prognosis and Treatment. C. S. Bull, New York.
2 *Treatment of Intraperitoneal Hemorrhage from Rupture or Abortion of Tubal Pregnancy. H. N. Vineberg, New York.
3 Acute Lobar Pneumonia—A Study in Inflammation. G. K. Dickinson, Jersey City.
4 *Chronic Rheumatism and Its Treatment. J. Dardel, Paris, France.
5 Obstruction of Duodenum by Gallstones. Preoperative Localization; Operation; Recovery. G. A. Friedman, New York.
6 *Treatment of Epithelioma and Carcinoma of Mucous Membrane. W. D. Witherbee, Charlotte, N. C.

1. **Intraocular Lesions of Inherited Syphilis.**—Bull makes an urgent appeal for an earlier and more careful examination of the eyes in children born of parents or of a family, supposed or known to be syphilitic. In his experience, intrauterine disease of the deeper tissues of the eye is more common than is supposed. He rejects the idea that cases of congenital syphilis of the eye are usually comparatively mild. Lesions of deep structures of the eye are often actually congenital, e. g., iritis, cyclitis, chorŏiditis, cataract, exudation in the vitreous, more rarely retinitis, optic neuritis, and atrophy of the optic nerve have been observed in infants within a few hours of birth. He believes that disease of the uveal tract is more frequently seen in young infants than is keratitis. He describes five cases of actual congenital syphilitic eye disease. In tardy inherited syphilis the subject is more complex and the diagnosis more difficult. Physicians must beware of referring all obscure conditions to inherited syphilis. A searching investigation, not only of the patient, but of the family, is necessary. The stigmata in the fundus oculi may appear either as gross lesions or as slight rudimentary signs of former lesions. Functional ocular troubles, such as amblyopia, night blindness, nystagmus and apparent myopia, occur in tardy inherited syphilis. Certain aural stigmata are of value as diagnostic aids. The indication for specific treatment seems to exist in all cases in which there are lesions of possibly syphilitic origin, especially if one or more undoubted stigmata are present. In infantile iritis a mild mercurial ointment acts very well. A proper supporting dietary is necessary for infants. The parents should also be subjected to specific treatment if there are other children in the family showing marks of inherited syphilis.

2. **Intraperitoneal Hemorrhage and Tubal Pregnancy.**—Vineberg considers the question of immediate or delayed operation. His position is that in the vast majority of cases of rupture or abortion of tubal pregnancy it matters little whether the operation be done as soon as expedient or deferred for one, two or more days. It is only in those very rare cases of abortion or rupture in which the amount of blood poured into the general peritoneal cavity is so overwhelming as to place the patient *in extremis* from anemia and pressure on the heart and lungs that, to his mind, immediate operation with prompt intravenous salt infusion is imperative. Still, it is not his custom to defer operative interference more than a few days in any case in which he has been able to diagnose ectopic pregnancy with a fair degree of certainty.

4. **Rheumatism.**—Dardel adopts the following classification: 1. Chronic, progressive, deforming rheumatism (Trousseau's *rheumatisme noueux* and Besnier's osseous rheumatism). 2. Chronic forms of rheumatism following acute or subacute articular rheumatism or secondary to infection of some kind. 3. Chronic rheumatism of a dyscrasic or toxic type often described as rheumatic gout. He considers each of these conditions in detail and states that he regards the first as an infective or trophic trophoneurosis. Cases of the second group follow acute or subacute articular rheumatism, gonorrhea and tuberculosis, more rarely eruptive fevers and dysentery. The third group appears to have a dyscrasic or toxic origin. He discusses treatment under the heading of hygienic and dietetic, medicinal, local and mineral and thermal waters.

6. **Treatment of Mucous Carcinoma.**—Witherbee holds that if in cases of malignant growths of the mucous membrane, the operator first does a radical operation and then makes an incision through the mucous membrane well down to the basement membrane and well out from the margin of the wound, carrying this incision completely around so as to cut off the circulation of the entire area, except that from the basement membrane, he will by this means starve rather than stimulate all the cells for a short time. He can then further guard against recurrence by keeping the wound open and thus obtain drainage and at the same time expose the whole part to the *x*-ray daily until the wound is healed.

Boston Medical and Surgical Journal.

April 2.

7 *Intussusception: Review of Recent Literature with Report of Cases. J. S. Stone, Boston.
8 *Intussusception; Suggestion for a New Method of Operation in Cases in which Reduction is Not Possible. E. A. Codman, Boston.
9 Anomalous Folds in the Nasopharynx. J. P. Clark, Boston.

7. **Intussusception.**—Stone discusses the literature, quoting from a monograph by Charles P. B. Clubbe of Sydney, N. S. W., who reports a remarkable series of 144 cases of which only 14 were in subjects over a year old. Of the 144 cases, 14, or about 10 per cent., were reduced by injections. Of the 124 patients treated by laparotomy 84 were cured, giving a mortality of less than one-third. Apart from Clubbe's personal skill he has educated his medical community to a prompt recognition of the disease and an acknowledgment that it is surgical from the outset. The clinical picture, as presented by Clubbe, is so plain that it is worth quoting: "The very sudden onset in a previously healthy baby is a peculiarity of intussusception. The child is seized suddenly, screams, turns pale, vomits, and in a short time seems to recover itself, only to cry again at intervals as if in pain. Soon after the first scream it may pass a normal motion. In from two to ten hours, in the majority of cases (97 per cent.), blood will be passed by rectum. The mass, which varies much in size and position, can nearly always be made out by careful palpation when the child is under an anesthetic. The child may not look ill, its pulse rate may be hardly raised, and its temperature may be normal." Clubbe employs irrigation, not as a curative measure, but as a preliminary aid to operation. It reduces a considerable portion of the mass, thus avoiding handling and diminishing shock; it also enables the incision to be made directly over the point where the work must be done. Stone discusses those cases in which the tumor is easily found and reduction is rapid at first, stopping, however, before completion. Taxis ruptures the peritoneal coat and the inner layers of the receiving bowel. Traction tears the entering bowel and may tear a segment of bowel from its mesentery. Immediate

resection is the measure for adults, but in children it is practically always fatal. The alternatives are an artificial anus or the insertion of a tube just above the obstruction; or an incision of the constricting bowel at the point of entrance may be made. The former, on the whole, offers the best chance for preserving life.

8. **Id.**—Codman, like Stone, eulogizes Clubbe's monograph and quotes the same passages. He gives a tabular report of twenty-seven cases from the Massachusetts General Hospital during the last eleven years. One case indicates that tying off the blood supply of the intussusceptum is likely so to shrink it as to allow removal by gentle traction at least as soon as the fourth day. He discusses Conant's operation and suggests modifications. He summarizes his conclusions as follows:

1. In infants and children, in whom the diagnosis can be made and who are not already very feeble, should be given one forcible oil enema under an anesthetic on the operating table. This should be followed by laparotomy whether the tumor disappears or not.
2. Before using efforts at reduction forcible enough to cause increased shock, the surgeon, if he does decide on it, should make up his mind to carry out reduction up to the limit of the patient's strength.
3. If reduction is considered too doubtful, resection with double enterostomy is the choice when (a) the mass is wholly composed of small intestine; (b) when it is wholly composed of large intestine and the mechanical conditions make resection easy.
4. If reduction is abandoned and the mass is wholly composed of large intestine and resection can not readily be performed, excision of the intussusceptum is indicated by Barker's or Mikulicz's method.
5. In irreducible cases in which the small intestine is invaginated into the large, simple enterostomy without resection and resection of the mass should be abandoned and replaced by ligation of the impacted mesentery and enterostomy.
6. In infants in whom there is already evidence of severe exhaustion, ligation and enterostomy could probably be done very rapidly and with less operative shock than even a successful reduction, provided the operator from the beginning abandoned any idea of reduction.

New York Medical Journal.

April 4.

10 *What We Have not Done for the Insane. F. Peterson, New York.
11 *Surgical Considerations of Joint and Bone Tuberculosis. J. Wiener, New York.
12 *Gastroenterostomy in Cancer of the Stomach. J. J. Gilbride, Philadelphia.
13 Chronic Alcoholism. G. E. Pettey, Memphis, Tenn.
14 Carious Teeth in the Tenement Population of New York City. H. Emerson, New York.
15 *Practical System of Medical Inspection with Trained Nurses, Adapted for Public Schools of Large Cities. S. W. Newmayer, Philadelphia.
16 *The Clinical Laboratory of the General Practitioner. H. Mackay, Windsor Mills, Quebec.
17 Lactacid Milk in Infant Feeding. C. E. Carter, New York.

10. **The Insane.**—Peterson, while bearing testimony to what has been accomplished, points out that there are still defects to remedy and ideals to attain. More must be done for prophylaxis, by attention to preventable causes, such as alcohol, by outdoor clinics in connection with each hospital, extending free treatment in early cases to the insane poor. The public must be educated out of the dread of the insane hospitals and must be taught that insanity is a preventable and curable condition. Emergency cases, especially, require attention and should no longer be sent to jail and police stations until they can be committed to an asylum. Psychopathic hospitals or special wards in the large general hospitals should be established, and it should be possible, without any legal process whatever, to commit emergency cases to them for ten days' observation, on the same principle that obtains with quarantine. Commitment to an insane hospital, if necessary, would have the necessary safeguards. After committal, unsatisfactory conditions are found in overcrowding, inadequate supply of physicians, nurses and attendants; in the comparative absence of recreation and occupation, i. e., of a most important form of psychotherapy. Overcrowding must be met by new hospitals, which, at the rate of 1,000 patients a year increase, requires practically a new hospital for the insane annually. Something could be done by reducing the hospital population. A noticeable percentage of inmates are not really insane, but are simply physiologically senile dotards, between 60 and 100 years of age. It would be cheaper for the state to pay the actual cost of their board in state institutions, adopting the boarding-out plan which has been so successful in Scotland and in Massachusetts. As regards methods and manner of care, study, etc., the private institutions are behind, rather than in advance of, the state institutions. Finally, the author commends the establishment of after-care organizations and recommends their extension to include "forecare" or prophylaxis. He considers that physicians should take an active part in these and that the returns in increased study would repay them.

11. **Joint and Bone Tuberculosis.**—Wiener discusses the diagnosis and prognosis and divides the treatment into three heads: 1, General hygiene; 2, prevention of further involvement; 3, direct treatment of the lesion. Under the latter he describes the technic of iodoform injection. He applies his principles in detail respectively to the hip and knee joints and to the bones of the foot, shoulder, elbow and wrist.

12. **Gastroenterostomy in Cancer.**—Gilbride states that if the methods of diagnosis now in our possession were more generally applied many more cases would be recognized at a time when a radical operation could be performed. He describes three types of onset and says that the presence of a tumor, if small and movable, is not a contraindication to radical operation, for the majority of tumors occur at the pylorus, which is accessible to examination, and symptoms earlier direct the patient's attention to them. As to the operation of gastroenterostomy in gastric cancer, he considers the posterior no loop method with a double row of sutures as that of choice. He reports three cases and says that every patient who, in middle or advanced life, is suffering from dyspepsia should have the stomach contents examined, not once, but several times if necessary. Suspicion of the presence of malignant disease of the stomach calls for exploratory laparotomy.

15. **Medical Inspection of Schools.**—Newmayer discusses the requirements for satisfactory cooperation in the medical inspection of schools and describes the method which he has devised for use in Philadelphia. Cooperation between teacher, nurses and physicians is effected by the use of but one card and one blank, of which Newmayer gives specimens. The teacher decides each day what new cases shall be seen by the inspector. The preliminary data on the cards are filled in by the teacher once for all, and repetition is thus avoided. Instead of examining and re-examining normal children, every new child should receive a thorough physical examination on enrollment. The same child with the same ailment should not be sent to the inspector each day. After the first examination the nurse, in the absence of orders, should be the judge as to when the inspector should see the child again. The cards are filed in three compartments: 1, new cases; 2, unfinished cases; 3, cured cases. Each pupil sent to the medical inspector is returned with a slip ordering exclusion from class-room, when necessary, and indicating disposition of the patient—whether referred to nurse, dispensary or family physician for treatment. The nurse begins her work by seeing individually each child with a new card containing the inspector's instructions. She can then perform her work without troubling anyone and the card is placed in compartment 2. The unfinished cases are next seen, and as each child is cured or otherwise disposed of, its card goes into compartment 3. Once a month all finished cards go to the bureau of health or of education and are filed according to school and disease.

16. **General Practitioner's Clinical Laboratory.**—Mackay describes a practical laboratory, with all essential instruments, apparatus, reagents, etc., such as can be obtained at little expense by almost any practitioner, and details the work that can be done in it.

Lancet-Clinic, Cincinnati.

March 28.

18 *Disposition of the Appendiceal Stump. B. M. Ricketts, Cincinnati.
19 *The Use of Cheap Hammers as a Factor in Penetrating Wounds of the Eye. S. C. Ayres, Cincinnati.

18. Abstracted in THE JOURNAL, Oct. 26, 1907, page 1467.

19. **Wounds of the Eye.**—Ayres points out that the combination of *x*-ray with the eye magnet renders possible in the present day the saving of many eyes injured by metal splinters that would formerly have been doomed. Inquiring inte the causation of such injuries, however, he finds them largely due to the use by workmen of cheap hammers which are not

steel throughout. The soft core shrinks, through repeated hammering, causing the surface steel to crack and splinter. Mechanics must be educated to the danger of such cheap tools as the public is being educated to the danger of infected milk.

Medical Fortnightly, St. Louis.

March 25.

20 Treatment of Acute Otitis Media. J. C. Buckwalter, St. Louis.
21 Glimpses of Early St. Louis Medical History. (To be continued.) W. B. Outten, St. Louis.
22 *Renal Surgery and the Importance of the Cystoscope as an Aid in Diagnosis. J. F. Menestrina, St. Louis.
23 Etiology and Diagnosis of Surgical Kidney. H. N. Lyon, St. Louis.
24 Dr. Senn as a Man. W. B. Outten, St. Louis.
25 Dr. Senn as a Surgeon. A. H. Meisenbach, St. Louis.
26 Dr. Senn as an Operator. C. Smith, St. Louis.
27 Dr. Senn as a Writer. G. Homan, St. Louis.
28 Dr. Senn as a Teacher. W. H. Stauffer, St. Louis.

22. **The Cystoscope in Renal Diagnosis.**—Menestrina emphasizes the importance of the cystoscope as an aid in the diagnosis of traumatic conditions of kidney substance; renal hemorrhage from other causes; pyonephrosis due to renal calculi; pyonephrosis due to exanthemata; perinephritic abscess communicating with the kidney; hydronephrosis; tuberculosis of the kidney; the various forms of malignant metastases; floating kidney, etc. He describes two cases illustrating its use in the diagnosis of unilateral renal tuberculosis.

American Journal of Physiology, Boston.

March.

29 Pyrimidine Derivatives in Nucleic Acid. T. B. Osborne and F. W. Heyl, New Haven, Conn.
30 *Increase in the Osmotic Concentration of the Blood During Ether and Chloroform Anesthesia. A. J. Carlson and A. B. Luckhardt, Chicago.
31 Union of the Proteins of Serum with Alkali. L. J. Henderson, Boston.
32 Relationship Between the Strength of Acids and Their Capacity to Preserve Neutrality. Id.
33 Reaction of Blinded Lobsters to Light. P. B. Hadley, Providence, R. I.
34 *Relation of Ions to Contractile Processes. Rôle of Calcium Salts in the Mechanical Inhibition of the Ctenophore Swimming-Plate. R. S. Lillie, Woods Hole, Mass.
35 Influence of Various Lymphagogues on the Relative Concentration of Bacterio-Agglutinins in Serum and Lymph. B. Braude and A. J. Carlson, Chicago.
36 Relative Resistance of the Heart Ganglia, the Intrinsic Nerve Plexus, and the Heart Muscle, to the Action of Drugs. W. J. Meek, Chicago.
37 Relative Hemolytic Power of Serum and Lymph Under Varying Conditions of Lymph Formation. W. T. Hughes and A. J. Carlson, Chicago.
38 Compressibilities of Gelatine Solutions and of Muscle. L. J. Henderson and F. N. Brink, Boston.
39 Sensory Nerves of the Heart and Blood Vessels as a Factor in Determining the Action of Drugs. D. E. Jackson and S. A. Matthews, Chicago.
40 Feeding and Injection Experiments Following the Establishment of the Eck Fistula in Dogs. P. B. Hawk, Philadelphia.

30. **Blood in Anesthesia.**—Carlson and Luckhardt conclude that the osmotic concentration of the blood is increased during anesthesia, in consequence of the solution of ether or chloroform in the serum.

34. **Relation of Ions to Contractile Processes.**—Lillie discusses the nature of the contractile process, and concludes that it is due to an alteration in the ionic content of the contractile fibrils due to rhythmic alterations in their ionic permeability. The ultimate source of the energy of contraction is in the metabolic processes occurring in the contractile tissue. The conditions of activity in such a tissue depend intimately on the ionic constitution of the medium. In sea water, the presence of sodium and magnesium salts in favorable proportions is essential. Sodium salts can not be replaced by those of other alkali metals, such as potassium and ammonium. In sea water the maintenance of the normal rhythm depends on the presence of the magnesium, while the intermittence and ready inhibition of movement depend on the calcium; potassium, in some manner not yet clear, constitutes an important element in the general favorability of the medium. From a study of the mechanical inhibition of the ctenophore [a class or order of cœlenterates with paddle-like locomotive plates in eight meridional rows on the outer surface of the body] swimming plate Lillie makes the following summary: 1. Mechanical stimulation arrests the automatic activity of the ctenophore swimming-plate in sea water and in certain artificial media similar to sea water in general composition (van't Hoff's solution, mixtures of NaCl and $MgCl_2$). 2. This susceptibility to mechanical inhibition is dependent on the presence of calcium salts; decrease in the proportion of calcium increases the automatic activity of the plates and diminishes, and finally altogether removes, the above susceptibility; increase in calcium diminishes automatic activity and greatly facilitates inhibitions. Calcium can not be replaced by strontium or barium. 3. The essential action of the calcium in producing this effect appears to consist in an alteration of the permeability of the contractile tissue to ions. The contractile activity is explained as due to rhythmic alterations in the ionic content of the contractile fibrils, due to rhythmic alterations in their ionic permeability—of which the action current is evidence. Aggregation changes in the coloidal constituents of the fibrils accompany these rhythmic changes in their ionic content and form the direct condition of the rhythmic contraction. Calcium salts check or inhibit contractile activity by decreasing the ionic permeability of the fibrils; mechanical stimulation acts by facilitating the entrance of calcium ions into the tissue.

University of Pennsylvania Medical Bulletin, Philadelphia.

March.

41 *Ludwig's Angina: An Anatomic Clinical and Statistical Study. T. T. Thomas, Philadelphia.
42 *Is Veratrum a Circulatory Depressant? H. C. Wood, Jr., Philadelphia.

41. This article appeared in *Annals of Surgery*, January and February, 1908, and was abstracted in THE JOURNAL, March 21, 1908, page 993, and April 11, 1908, page 1220.

42. **Veratrum Viride.**—Wood describes a series of experiments leading to the conclusion that the current idea that veratrum is an active sedative to the heart and vasomotor system is an error, and that the drug is unfitted for many of the purposes for which it has been employed, particularly for its use in the early stages of pneumonia.

Journal of the Michigan State Medical Society, Detroit.

February.

43 *Treatment of Felons. J. W. Vaughan, Detroit.
44 *Epidemic Anterior Poliomyelitis. W. L. Griffin, Shelby.
45 Case of Poliomyelitis. C. F. Smith, Whitehall.
46 Case of Otitic Meningitis. R. B. Canfield, Ann Arbor.
47 Acute Mastoiditis. C. R. Elwood, Menominee.
48 *Treatment of Diabetes Mellitus. H. A. Freund, Detroit.
49 Etiology and Prophylaxis of Tuberculosis. J. O. Nelson, Howard City.

43. Abstracted in Department of Therapeutics, this issue.

44. **Anterior Poliomyelitis.**—Griffin reports an epidemic of this disease among children and young people in Oceana County, Michigan. Most cases occurred in the latter part of July, and in August and September. They numbered about twenty. In proportion to the population there were ten times as many cases in Oceana County as in the New York epidemic. Considered from the standpoint of age, the summary is as follows: Nine cases occurred between the ages of 2 and 3 years; one at 7 months, two at 7 years, two at 10 years, one at 13, two at 14, one at 22, and two at 24. The classification as to the location of the paralysis is as follows: In 9 cases one arm was paralyzed; in 7, one leg; in 2, both legs; in 1, one side of the face, and in 1 all the limbs were paralyzed. He reports 7 cases.

48. Abstracted in THE JOURNAL, July 13, 1907, page 181.

The Journal of the South Carolina Medical Association, Greenville.

February.

50 *What are Pellagra and Pellagrous Insanity? Does Such a Disease Exist in South Carolina and What Are Its Causes? J. W. Babcock, Columbia, and others.
51 Eight Consecutive Cases of Gunshot Wound of the Abdomen, with One Death. Le G. Guerry, Columbia.
52 Acute Rheumatic Fever. J. H. Allen, Spartanburg.
53 Acute Gastritis. F. L. Potts, Spartanburg.
54 *Use and Abuse of the Curette. J. Carroll, Summerville.

50. **Pellagra and Pellagrous Insanity.**—This is a report by the superintendent and chief of staff of the South Carolina Hospital for the Insane. It is divided into two parts: First, general, the definition and description, history, symptoms and mental symptoms, etc.; second, case reports with a view to

showing the existence of the disease in South Carolina. The authors of the report detail thir conclusions practically as follows: 1. True pellagra is a disease long known in southern Europe, due to eating defective Indian corn and manifesting itself in the spring by intestinal, skin, mental or nervous symptoms. Pellagrous insanity is a mental condition, usually of the melancholic type, developing in patients already suffering from pellagra, as shown by the pre-existing skin and intestinal lesions. 3. A pellagroid disease occurs in South Carolina, but whether it is the true pellagra of Italy remains to be proved, as the observations, though very suggestive, are yet too few for a final opinion. 4. While the conditions described do not harmonize entirely as regards the season of the year, yet at least the disease closely resembles Egyptian pellagra, even to the association with ankylostomum worm. 5. The condition is not the form of pseudopellagra sometimes described, since it does not stop at the erythematous stage, but presents the triad of symptoms—dermatitis, diarrhea and depression. 6. A form of mental disease has come under observation that in its clinical aspects is identical with pellagrous insanity. 7. The discovery of the hookworm in some of the cases is a most interesting association with the disease, but whether etiologic, accidental or otherwise demands further inquiry. 8. The probable occurrence of such a disease in South Carolina having been established, further clinical and pathologic research is called for. 9. The relationship between mental symptoms and hookworm disease (uncinariasis or ankylostomiasis) and kindred diseases, especially in the southern states, should also be a subject of further investigation. The authors state that these conclusions were arrived at before they learned of the contributions of Searcy (THE JOURNAL, July 6, 1907, page 37), and of Merrill (THE JOURNAL, Sept. 14, 1907, page 940).

54. The Curette.—Carroll lays stress on the fact that caution in technic and care in asepsis are quite as important in curettement as in abdominal surgery, and that while this operation is within the reach of any cool-headed, careful practitioner, it is by no means too insignificant to refer to the specialist.

Journal of Nervous and Mental Diseases, New York.

February.

55 *Functions of the Corpora Striata, with Suggestion of a Clinical Method of Studying Them. C. L. Dana, New York.
56 Nature and Relationships of Hysteria. (To be continued.) R. C. Woodman, Middletown, N. Y.

55. The Corpora Striata.—Dana summarizes his article as follows: The corpus striatum has not any independent or specific motor function. It probably has some supplmentary motor function, and especially in connection with articulation. It may have some control over the bladder (double lesions). It seems to have some control over vasomotor and trophic conditions of the skin (and lungs?). It has no thermic center. It may have some supplementary and associated psychic function so that lesions affect memory or initiative. It is an organ of less importance relatively in the higher vertebrates. In severe gas poisoning there is a double softening of the lenticular nuclei due to thrombosis of "the artery of cerebral thrombosis," and there result vasomotor and gangrenous conditions of the skin, so that these conditions in connection with a history of coma from gas poisoning form a group of symptoms called "the syndrome of the corpus striatum."

Yale Medical Journal, New Haven.

February.

57 *Phases of Appendicitis. G. A. Blumer, New Haven, Conn.
58 Pathology of Renal Tuberculosis. W. R. Steiner, Hartford, Conn.
59 *Notification of Tuberculosis. D. R. Lyman, Wallingford, Conn.
60 Demand for an Open Change of Attitude Toward the Social Evil. T. N. Hepburn, Hartford, Conn.

57. Appendicitis.—Blumer discusses the relation of appendicitis to cholelithiasis and cholecystitis under the following heads: 1. Acute cases in which the two diseases occur together, and in which symptoms of both are present. 2. Cases in which there is evidence that the gall-bladder affection preceded the appendicitis. 3. Cases in which there is evidence that the appendicitis preceded the gall-bladder disease. When appendicitis precedes the cholecystitis it is likely (Lartigau) that the infection reaches the gall bladder through the portal circulation. Where cholecystitis precedes appendicitis it is probable that infectious material discharged into the upper intestine lodges in the unusually vulnerable appendix and causes inflammation. The possibility of infection being carried from one organ to another by adhesions must be considered. He suggests the possible advisability in most appendicitis cases of exploring the gall bladder and vice versa. He also discusses hematemesis after appendicitis.

59. Notification of Tuberculosis.—Lyman discusses the chief objections on the part of the medical profession to notification, namely: 1, the classing of pulmonary tuberculosis with other contagious and infectious diseases; 2, breach of professional confidence; 3, the entailing of publicity; 4, the unnecessary subjection of families of ordinary means and intelligence to the disagreeable publicity of visits from the health department. He admits the force of these objections, but endeavors to show that they are not insuperable.

The Journal of the New Mexico Medical Society, Albuquerque.

March 15.

61 *Uncinariasis. J. W. Colbert, Albuquerque.
62 Pelvic Diseases of Women. J. H. Worth, Albuquerque.
63 Scarlet Fever. R. E. McBride, Las Cruces.
64 Report of Special Health Officer. B. Ruppe, Albuquerque.
65 Plea for Reasonable Harmony in Medical Therapeutics. G. K. Angle, Silver City
66 An Unusual Hysterectomy. H. Crutcher.

61. Uncinariasis.—Colbert gives the results of his observations from the treatment of 5,000 cases of uncinariasis in Porto Rico, where the disease is found in its worst form. He has observed the disease in Brazil, Panama, Guatemala and Mexico, and has studied the reports of European cases and those of the southern states and the Philippines. He is of the opinion that the "light infections" of Porto Rico would be classed as severe in any of those places. He has not found the old-world parasite in Porto Rico, but only the *Uncinaria americana*. He regards Stiles' opinion, that this worm is a blood sucker, as erroneous. In many of his most severe cases, but very few parasites, not enough to cause marked loss of blood, were found, yet expulsion of the worms was followed in each case by cure. Of 200 worms examined only 3 contained blood, which he regards as accidental contamination. Were the worms blood suckers, blood should be found in the feces. Yet of 21,403 specimens of feces personally examined, only 12 contained blood sufficient to be macroscopically visible, and in only 23 specimens could red blood cells be found. In his opinion a toxemia is the true cause of the symptoms. As to method of entry, penetration of the skin by the larvæ, in Porto Rico at any rate, he regards as practically the only method. Latrines are unknown and soil pollution occurs everywhere, while the laboring people go barefoot. Moreover, 4,956 of his 5,000 cases gave a history of uncinarial dermatitis, indicating skin infection. Infection by the mouth he considers unlikely, for the parasite dies rapidly on drying. One part of solid matter, he says, to the thousand in water has been proved fatal to the larvæ, while water ccntaining a greater proportion than this would be too repulsive to drink. Stiles' observations, that uncinariasis is preeminently a disease of sandy localities, does not hold good, Colbert says, in Porto Rico, where all kinds of soil, with sufficient shade and a relatively high temperature, furnish cultures of larvæ. As to symptomatology, more than moderate pallor was shown in 63.5 per cent. of his cases. The average hemoglobin percentage was 44.1. Age: 71.4 per cent. of cases occurred under 30 years of age. He gives figures to show that the supposed immunity of the negro can exist to only a very slight extent. He describes his method of examining feces for ova and shows the disease to be easily curable on removal of the parasite; 81.1 per cent. being cured, 18.6 improved, and 0.3 per cent. having died. Only two remedies are worth consideration, beta-naphthol and thymol. After a day's liquid diet one ounce (30 gm.) of magnesium sulphate is administered at 3 p. m. At 7 a. m. 15 grains (1 gram) of beta-naphthol in capsule are given and repeated in an hour, and at 11 a. m. again one ounce (30 gm.) of magnesium sulphate. The patient reports ten days later, bringing feces, when, if ova are still found, treat-

ment is repeated. Of Colbert's cases 82 per cent. required from one to five treatments. The largest number of worms expelled by a first dose was 4,016; the largest total number in six treatments, 4,872.

California State Journal of Medicine, San Francisco.

February.

67 *Permanent Eradication of Plague. W. A. Briggs, Sacramento.
68 *Medical Expert Testimony. A. E. Osborne, Santa Clara.
69 Acromegaly with Facial Hemihypertrophy. V. C. Thomas, San Francisco.
70 Report of Eleven Cerebral Complications Due to Acute and Chronic Suppuration of the Middle Ear, with Complete Analysis of Five Cases. C. F. Welty, San Francisco.
71 Successful Suturing of a Double Stab Wound of the Femoral Artery, and a Single Wound of the Femoral Vein. H. M. Sherman, San Francisco.
72 *Rheumatism in Children. M. Cosgrave, San Francisco.
73 Clinics for Diseases of the Skin. D. W. Montgomery, San Francisco.
74 *Subjective Symptoms and Painful Sensations in Heart Disease. E. Schmoll, San Francisco.

67. **Plague.**—Briggs proposes a series of measures having in view the permanent eradication of plague, which may be summarized into the establishment of a national bureau of health; the extermination of rodents, fleas, flies, etc., rat-proof buildings in localities exposed to plague; frequent examination of rats in districts exposed to infection; killing of domestic animals that have been exposed; the quarantining of all cases; the immunizing of all nurses, physicians, inspectors and those exposed to plague infection; skilled official inspection of all dead bodies before enbalming or interment; destruction or disinfection of all fomites, and the burning of all infected material not capable of disinfection. Finally, he urges the passage and enforcement of ordinances to facilitate the work of boards of health in reference to freeing premises from rats, etc., discharge of cargo, wharfing of ships, quarantining of warehouses, etc., inspection of hotels, lodging houses, etc.

68. **Medical Expert Testimony.**—Osborne cites the various objections to the present system coming respectively from the legal profession, the intelligent laity, and the medical profession, and considers that the two essential objections are to be found in the partisanship of experts and the hypothetical question. He proposes a bill to be brought before the state legislature, the sections of which provide for the appointment of disinterested persons as expert examiners by the court; their findings and opinions to be presented verbally or in writing to the court, the said experts not being permitted to take the stand for cross-examination or otherwise; the judge to determine on the fees and necessary expenses to be met by the county treasury and paid as part of court expenses.

72. **Rheumatism in Children.**—Cosgrave divides her cases into four classes: First, those who come to the clinic suffering from acute articular rheumatism with enlarged joints; second, those suffering from chorea; third, those with tonsillitis; fourth, those with endocarditis. She finds it impossible to doubt the specific infectious nature of the disease. The frequent ushering in by tonsillitis, the endocarditis and polyarthritis following in some cases, the chorea in others, all point to a germ invasion. As to whether Cole and his followers are right in ascribing it to a pyemia or Beattie to a *Micrococcus rheumaticus* remains for further study to prove.

74. **Heart Disease.**—Schmoll says that it has been held an axiom that heart disease runs a painless course so long as the heart is well compensated. His study of a great number of diseased hearts has led him to the conviction that painful sensations, ranging from hardly perceptible constriction in mitral insufficiency to annihilating pain in coronary sclerosis, exist in every case of heart disease. The study of the symptoms during an attack of angina pectoris and other considerations has shown him that the symptoms are due to a segmental lesion of the spinal cord caused by reflex irritation from the heart. This reflex irritation takes place in every case of heart disease. He divides the subjective symptoms of heart disease into sensory, motor and vasomotor. Taking a painful attack caused by coronary sclerosis as a subject, he finds that the sensory symptoms can be divided into sharply defined groups: 1, the sensation of impending death; 2, pain in the heart and surrounding structures. Motor symptoms show themselves in the form either of irritation or of paralysis. Vasomotor symptoms, by changes in blood distribution, have never been missing in any attack he has seen, or in any description of an attack given him by an intelligent patient. Examination between attacks shows that the same symptoms exist in attenuated form and that sensory, motor and vasomotor disturbances are produced in the segments of the spinal cord affected during the attack. The sensory symptoms during the intervals consist of hyperesthesia of those segments in which the pain prevails during the attack. Sometimes the pain feels like a rheumatic pain. The tonus of the muscles corresponding to hyperesthetic areas is increased. The vasomotor symptoms of the intervals are not usually so well marked as the sensory and motor symptoms. The explanation of the pathogenesis of these symptoms favored by the author is that of MacKenzie, that by the disease of the heart a constant stimulus irritates the nervous system of the heart. This constant irritation of the sympathetic nerve leads to an irritation of the spinal segment, at which the heart fibers connect with the spinal cord. The irritation of the sensory part of the spine leads to a sensation, which, according to the law of Muller, is projected into the periphery supplied by the nerves of the spinal segment: the irritation of the sensory part may become so strong that the cells get overtired, and are incapable of conducting the stimulus-producing anesthesia. Similar conditions prevail for the motor part of the spinal cord. Irritation of the spinal segment leads to tonic or clonic contraction of the muscles, receiving their innervation from this spinal segment. Long-lasting irritation may lead to paralysis. Similar conditions prevail for the vasomotor disturbances. The innervation of the vasomotor processes has been definitely shown to be of the same segmental character as motor or sensory innervation.

Wisconsin Medical Journal, Milwaukee.

March.

75 *The Physician in His Relation to Contagious Diseases and the Public. C. A. Harper, Madison.
76 *Variola: Facts Regarding Absolute Immunity by Vaccination. J. P. Cox, Spooner.
77 *Late Syphilis of Bone. M. Iverson, Stoughton.

75 and 76. Abstracted in THE JOURNAL, Aug. 31, 1907, page 795.

77. **Late Syphilis of Bone.**—Iverson pictures the evil results of allowing syphilis of bone to continue unmolested, and says that if a complete operation is performed, removing all diseased bone and periosteum, the lesion will heal with the aid of specific treatment, and the bone in time may regenerate almost entirely from the periosteum. He describes a case in point.

Atlanta Journal-Record of Medicine.

February.

78 *Education and the Social Evil. A. W. Stirling, Atlanta.
79 *Perfect Mechanical Reduction of Fractures and Method of Absolute Immobilization. J. H. Downey, Gainesville, Ga.
80 Importance of Testing the Ocular Muscles. R. B. Ridley, Atlanta.
81 *Diagnosis of Kidney Disease, with Special Reference to the Significance of Slight Albuminuria. E. Ballenger, Atlanta.

78. **The Social Evil.**—Stirling discusses this subject and arrives at the conclusion that continence and a pure monogamy are the western ideals. The assertion that prostitution has always existed and always will exist—is, in short, a necessary evil—he answers by pointing out that those who advance this view would be as quick as their neighbors to resent the idea that any of their own people should embark in this necessary, and, according to themselves, saving profession. This puts them on the horns of a dilemma. Prostitution, if necessary, can not be immoral, because it stands to reason that no necessary position in life is immoral. On the other hand, if it is not necessary, enough has been said to show that its effects are so destructive physically and morally that it is high time something is done to demolish it.

79. A similar article by this author appeared in THE JOURNAL, Dec. 29, 1906, page 2160.

81. This article was published in the *Medical Record*, Nov. 30, 1907.

Cleveland Medical Journal.

February.

82 Studies in Aneurism. (To be continued.) J. G. Mumford, Boston.
83 Medical Code of Hammurabi, King of Babylon. H. E. Handerson.
84 *Value of Blood Examination in Surgery. F. E. Bunts, Cleveland.
85 Case of Vaginal Cesarean Section for Acute Cardiac Dilatation and Pulmonary Edema. F. S. Clark, Cleveland.
86 Treatment of Club Foot. H. O. Feiss, Cleveland.
87 Syphilitic Myelitis. J. V. Shoemaker, Philadelphia.

84. **Blood Examination in Surgery.**—Bunts considers in detail the hemoglobin, the coagulability of the blood, iodophilia, the leucocyte count, and the differential count. He concludes that hemoglobin examination is a valuable aid in prognosis, giving a clue as to the safety of general anesthesia, but that in emergencies, however low the percentage may be, it must not be considered a bar to operation. The coagulation time, under ordinary circumstances unimportant, is of import, outside of hemophilia, in jaundice cases, in which its delay beyond ten minutes is a contraindication to any but the most urgently necessary operation. The inconstancy of iodophilic reaction in suppurative cases lessens its value, but it may aid diagnosis in obscure cases, and its disappearance after operation in suppurative cases points to successful evacuation and drainage, while persistence or recurrence suggests incomplete operation or a fresh accumulation of pus. The greatest value of leucocytosis will be found, he asserts, in certain differential diagnoses. Its presence decides emphatically against unmixed tuberculous infection, and excludes typhoid as against appendicitis. Acute abscess formation is accompanied by it, yet the walling off of the abscess may cause it to return to the normal. Its absence is diagnostically important in neuralgic or painful abdominal or pelvic conditions unaccompanied by inflammation. It is present in fractures, pneumonia, cancer or malignant growths, burns, and during certain stages of digestion. Bunts believes the differential count is destined to replace the simple leucocyte count, and that accumulating observations will place it on a much more positive and scientific basis than that of leucocytosis.

Journal of the Arkansas Medical Society, Little Rock.

January.

88 Strangulated Inguinal Hernia. L. E. Willis, Newport.
89 Amputation of a Leg Under Local Anesthesia. R. C. Dorr, Russellville.
90 Case of Epibulbar Sarcoma. F. Vinsonhaler, Little Rock.
91 Clinical Experience with Gonococcus Vaccine. A. Watkins, Little Rock.
92 Management of Acute Traumatic Infections. W. A. Snodgrass, Little Rock.

Southern California Practitioner, Los Angeles.

March.

93 Work of the California State Board of Health. LeM. Wills, Los Angeles.
94 Examination of the Eye as an Aid in General Diagnosis. D. J. Frick, Los Angeles.
95 Nature and Value of Ausculted Voice Sounds in the Diagnosis of Diseases of the Chest. R. Hutchinson, Los Angeles.
96 Recent Experience with Smallpox. W. S. Fowler, Bakersfield.
97 Intumescent Rhinitis. F. W. Miller, Los Angeles.
98 Proper Diet in Acid Dyspepsia. B. Reed, Los Angeles.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

March 21.

1 *Tuberculosis of the Kidney and Malignant Disease of the Cecum. C. J. Symonds.
2 Surgery of the Spinal Cord and Its Membranes. D. J. Armour.
3 *Acquired Diverticula of the Sigmoid Flexure Considered Especially in Relation to the Secondary Pathologic Processes and Their Clinical Symptoms. W. H. M. Telling.
4 *Splenic Anemia. G. A. Gibson.
5 Obstruction Caused by Sarcoma of Small Intestine. A. C. D. Firth.
6 Deaths Under Anesthetics. F. J. Waldo.
7 Case of Pancreatitis with Jaundice and Acute Parotitis in Scarlet Fever. S. P. Phillips.
8 *Do Fleas Spread Cancer? V. G. Webb.
9 Case of Multiple Congenital Defects. J. S. Pearson.

1. **Tuberculosis of the Kidney.**—Symonds' first Lettsomian lecture is devoted to tuberculosis of the kidney. He reports in detail five cases dealing with the early symptoms and methods of diagnosis and compares the condition of the kidney when removed with impressions gained thereby. He particularly illustrates the value of cystoscopic diagnosis. The article is accompanied by colored plates.

3. **Diverticula of the Sigmoid.**—Telling records an extensive search of the literature on this subject. He discusses the etiology, summarizing the views held by recent investigators under the heads of advanced age; sex; obesity; cachexia and absence of fat; the normal structure of the large intestine; the physiologic rôle of the sigmoid flexure; pressure from within the bowel, by (a) constipation, (b) flatulence; the vascular conditions, (a) relation of diverticula to points of entrance of vessels through gut walls, (b) variation in size of vessels, (c) connective tissue round vessels, and, as an underlying cause (Beer), muscular deficiency of the gut wall. Probably no one factor is sufficient in itself to bring about the condition. Constipation is extremely common; the outpushings are comparatively rare. Venous congestion is also common and the combination of this with constipation is by no means infrequent; possibly there needs to be in addition a muscular weakness, either acquired or due in some cases to abnormal arrangement, of congenital origin, of connective tissues of the vessel spaces or of the muscle fibers of the gut wall. Secondary pathologic processes in the diverticula he summarizes as follows, considering each heading in detail: 1, Thinning of the diverticulum wall; 2, perforating action of the retained concretion; 3, the presence of micro-organisms and their toxins; 4, inflammatory reaction of varying type and degree. With these data one could forecast almost with certainty the various kinds of cases that might be expected to occur clinically, and the list provides examples of nearly all of them. The following is a summary of the secondary pathologic processes to which sigmoid diverticula are liable: 1. Infection of the general perintoneal cavity, from thinning of the sac walls, without perforation. 2. Acute or gangrenous inflammation—diverticulitis. 3. Chronic proliferative inflammation with thickening of the gut wall and stenosis of the bowel. 4. The formation of adhesions, especially adhesions to (a) the small intestine, and (b) the bladder. 5. Perforation of the diverticula, giving rise to (a) general peritonitis, (b) local abscess, (c) submucous fistulas of the gut wall, and (d) fistulous communication with other viscera, especially the bladder. 6. The lodgment of foreign bodies. 7. Chronic mesenteritis of the sigmoid loop. 8. Local chronic peritonitis. 9. Metastatic suppuration. 10. The development of carcinoma. 11. Perforation into a hernial sac. These are all considered in detail.

4. **Splenic Anemia.**—Gibson reports an interesting case of a patient who, subsequently to a railway accident, suffered from vomiting, with swelling of the abdomen and great enlargement of the spleen, restlessness, throbbing in chest, head and neck, diffuse pulsation, etc. The blood showed 50 per cent. hemoglobin, 2,250,000 erythrocytes and 3,600 leucocytes. The film gave the following differential count: Polymorphonuclears, 73 per cent.; small lymphocytes, 23 per cent.; large mononuclears, 3 per cent., and eosinophiles, 1 per cent. Subsequently the patient suffered much with abdominal pain, diarrhea and vomiting, to which severe epistaxis was added. Splenectomy being contemplated, it occurred to Gibson that it might be well to ascertain the state of the bone marrow, to determine whether any useful end would be attained by surgical intervention. The left tibia was accordingly trephined, and the bone marrow being found in a state of gelatinous degeneration without any hope of regeneration, operative procedure was considered hopeless. Hemorrhage followed from most of the mucous membranes and the kidneys, with anasarca, hydrothorax and hyperpyrexia; death occurred six weeks later. The subsequent examination showed the characteristic appearances of splenic anemia and the state of the bone marrow fully confirmed the conclusions arrived at during the patient's life.

8. **Fleas and Cancer.**—Webb reports the following case as possibly having some bearing on the transmission of cancer·

A woman, aged 58, in good health, visited toward the end of November, 1907, a poor woman suffering from advanced rectal cancer. The visitor was severely flea-bitten on the right breast. On December 2 Webb was shown the breast, which was inflamed and resembled that of a woman the third day after delivery, except that the nipple was somewhat retracted. The condition was diagnosed as interstitial mastitis, and after a weeks' treatment external signs of inflammation were gone and the breast was nearly its normal size, but in a week or so it had enlarged again. There was little pain and the size fluctuated; later blood was discharged from the nipple. On February 1 obstruction of ducts by papilloma and congestion was diagnosed. On February 17 the entire breast and an enlarged gland were removed. On microscopic examination the growth showed in part simple papilloma, but in others it had the malignant characters of a duct carcinoma. While it may have been only a coincidence, Webb emphasizes the following points: 1, The patient was bitten by fleas from the bed of a cancer patient; 2, there followed an inflammation (though not necessarily *propter hoc*); 3, after about a fortnight a definite growth developed, ending in duct carcinoma.

British Medical Journal, London.

March 21.

10 *Visible Signs of Visceral Disease. J. Galloway.
11 *Anaysis of 263 Cases of Tabes. B. Bramwell.
12 *Treatment of Syphilis by Intramuscular Injections. J. E. Lane.
13 Case of Syphilis, Phthisis and Locomotor Ataxia. H. G. Sutherland.
14 *Extragenital Syphilitic Infection. H. Bayon.

10. Visceral Disease.—Galloway says that it must have been the experience of most of us, while watching patients during the course of an illness, especially if the illness happened to be a prolonged one to note the occurrence of intercurrent troubles, which, at the time, seemed to have little or no relationship to the malady from which the patient was suffering, but which on after-thought have appeared to be connected in some way with the main cause of the disease. The idea would then certainly have occurred, that had we been in a position to understand the relationships of the intercurrent affection, it would have served as a sign, and we should have become possessed of information as to the nature and progress of the patient's illness, and even of sugestions for effective treatment. He confines his remarks in this lecture to disease of the liver, an organ which he discusses with reference to its blood purifying function, the influence of obstruction of the portal circulation on its function, and the relation of cutaneous eruptions to alimentary disorders. I. Erythematous type in relation to portal obstruction (1) urticaria, (2) erythema exudativum, (3) erythema exudativum hemorrhagicum, (4) erythema with skin atrophy. II. Dilatation of superficial blood vessels (1) from the groin upward toward the intercostal veins (2) radiating venules from the umbilicus (caput medusæ) and enlargement of venules along the lower border of the thorax, (3) telangiectases, frequently observed in the skin of the face in children. III. Indications occurring in the course of the lymphatic vessels. IV. Primary new formations in disease of the liver, xanthoma. V. Anomalies of pigmentation as signs of visceral disease. These are very numerous and the author discusses only hemochromatosis and jaundice.

11. Tabes.—Bramwell gives an elaborate analysis of 263 cases of tabes, of which 192, or 73 per cent., were in the ataxic, and 71, or 22.9 per cent., in the preataxic stage of the disease. The three most important questions showed up as follows: Sex.—239, or 90.8 per cent., were males, and 24, or 9.1 per cent., females. Etiology.—The question of venereal disease was noted in 250 of the 263 cases. Of these a definite history of some form of venereal disease was obtained in 197 cases, and in 12 other cases it is practically certain that the patients had had syphilis. Other causes attributed are marked sexual excess, 13 out of 263 marriage (meaning thereby that the disease showed itself at or became greatly aggravated soon after marriage), 7 in addition to the 13 cases in which sexual excess was admitted; alcoholic excess, 26; injury, 7; exposure, 8; mental worry, 4; infectious diseases, 4; lead poisoning, 1. The incidence of the first symptom was noted in 258 of the cases, with the following results: Lightning pains alone, 133 cases (51.5 per cent.); diplopia, dimness of vision, 20 (7.7 per cent.); ataxia, 17 (6.5 per cent.); lightning pains and ataxia, 14 (5.4 per cent.); derangements of urination, 10 (3.8 per cent.); then gastric crises, numbness, pains and loss of vision, ataxia, pain in back and numbness in feet, and vomiting not due to gastric crises. Bramwell analyzes the individual symptoms and discusses the nature of the paresthesia in 178 cases, the reflexes, the conditions of the pupils and other ocular symptoms, the lesions of bones, joints, skin, etc., mental symptoms and special senses, and conditions of general health, and summarizes his results in tables. The results of his inquiry to date are: Of the 263 patients 70 have died; 88 are known to be still alive, and in 105 the result is unknown. Of the 88 patients still alive, 4 are well, 21 are better, and 59 worse or *in statu quo*.

12. Intramuscular Injections in Syphilis.—Lane does not advocate intramuscular injections as a routine treatment, but considers them especially useful when ingestion by the mouth or inunction are for various reasons unsuitable, and also in cases in which rapid action is essential, as in the more malignant forms of the disease. This form of medication is especially indicated in progressive ulcerative lesions, syphilitic iritis, syphilis attacking the brain or spinal cord, and destructive tertiary lesions. Lane describes his technic, as used at the London Female Lock Hospital by him in 375 cases with a total number of 4,516 injections. The buttock is the best site, and to avoid injury to nerves or vessels, the center of a line drawn between the anterior superior spine of the ilium and the summit of the intergluteal fold is a point of almost perfect safety. He recommends that the needle be thrust in first to the desired depth, and if no blood appears, the syringe may be attached and the injection introduced, but if blood issues another site must be sought. He now utilizes the insoluble preparations almost entirely, prefering calomel, ⅔ grain (0.043) of the sublimed powder suspended in 17 minims (1.05) of sterilized olive oil. The insoluble preparation is given once a week or once a fortnight, the course being from 10 to 12 injections. Pain gradually diminishes from the first injection, so that the later ones are practically free from inconvenience.

14. Extragenital Syphilitic Infection.—Bayon deals with syphilis insontium, and reports three cases with two doubtful ones. Incidentally he states that the *Treponema pallida* has a special predilection for the connective tissue immediately beneath the epithelial cells, which explains the efficacy of inunction in secondary eruptions. He has recently examined thirty-three patients for spirochetes without result after one or two weeks' treatment, while in untreated papules they could be demonstrated easily.

Medical Press and Circular, London.

March 11.

15 Fetid Bronchitis. H. Rabe.
16 Malignant Disease of the Cecum. C. J. Symonds.
17 *Personal Health Problems—Early and Late Growths. J. L. Tayler.
18 Practical Points in the Treatment of Gonorrhea. H. de Meric.

17. Personal Health Problems.—Tayler points out that there are so many individual types of children and adults of both sexes, that until we know the healthy type standard to which any given person should conform, it is impossible to generalize regarding the health or unhealthiness of small size, small weight, and shortness of stature. Some families mature quickly and others slowly. The children of the former group are big and tall for their age; those of the latter are often small at first, but gain in health markedly from adolescence onward. Tayler's observations lead him to the opinion that early and rapid growth is largely associated with early sexual development. Some definite information on the subject is much needed, not only because we do not know if the late growing type is, or is not, an unhealthy one, but also on account of the fact that the children of this type appear small and stunted at school, when afterward they often pass the average and thus vitiate school statistics in which height considerations have been included. Further, if the asexual form

is unhealthy, it may be that our system of education is fostering it, or some other element in our social life may be favorable, and its presence should throw light on many obscure phenomena of sterility, and also on the increasing difficulty experienced by many women in regard to lactation.

Clinical Journal, London.

March 18.

19 *Case of Addison's Disease. W. H. White.
20 Chronic Intestinal Obstruction. H. L. Barnard.
21 Nervous Phenomena in Pneumonia. S. West.

19. **Addison's Disease.**—White calls attention to the accuracy of generalization of Addison's original description of the disease in regard to diagnosis. The most common fallacy is to mistake Addison's disease for pernicious anemia; the peculiar lemon tint of the skin in the latter condition, however, is different from that of the characteristic case of Addison's disease; but in slight cases confusion often arises. Fortunately, modern means of examination of the blood, which in Addison's disease is but little abnormal, enable us to recognize the marked blood characteristics of pernicious anemia. White, however, cautions against being content with negativing a diagnosis of pernicious anemia because a single blood examination fails to show characteristic changes. The blood in pernicious anemia varies from day to day and from hour to hour. Another possible source of confusion is the discoloration consequent on prolonged administration of arsenic. By inquiry of many persons of considerable experience in arsenical poisoning he finds that the occurrence of pigmentation in the mouth is in favor of the case being Addison's disease. In malignant disease the wasting is apt to be much more marked, and local evidence of malignancy can usually be found. Other conditions sometimes confounded with Addison's disease, but which ought to be easily distinguishable, are the filthy, dirty patients, infested with lice, sometimes seen in hospital outpatient departments; phthisical and syphilitic pigmentation; Hanot's cirrhosis of the liver, and bronzed diabetes. Any condition that destroys the functional activity of the medullary part of the suprarenals may cause Addison's disease, by far the most common being tuberculous degeneration. Calmette's reaction helps in this matter. The comparative frequency of malignant disease as a cause, White considers due to the necessity of having both suprarenals affected and, perhaps, to the fact that in malignant disease death will be occasioned before the evolution of characteristic phenomena. The proportion of cases in which clinically characteristic Addison's disease has failed to show disease of the suprarenals is so small, about 12 per cent., as to be within the margin of allowable error due to erroneous diagnosis, inefficient postmortem examination, or the possibility of functional disturbance of the suprarenals. Further, other glands, e. g., the internal carotid and the coccygeal, have cells functionally resembling those of the suprarenals, and it is conceivable that very rarely disease of these glands may cause Addison's disease and lead to death before the suprarenals are affected. On the other hand, when the suprarenals have been found to be diseased and yet no Addison's disease has been present, it may be that the vicarious activity of these other glands may have formed sufficient internal secretion to prevent the patient having Addison's disease. The treatment is entirely unsatisfactory. Adrenalin was given in the case discussed by White without any effect; it did not even raise the blood pressure. White says that it has been used in so many cases without success, that a reported successful case makes one think either that the success was not permanent, or that there was a mistake in diagnosis.

Australasian Medical Gazette, Sydney.

January.

22 *The Precipitin Reaction in Hydatid Disease. D. A. Welsh and H. G. Chapman.
23 Medical Matters in Queensland. W. Love.
24 Acute Pancreatitis—Laparotomy—Recovery. F. S. Hone.
25 *High Blood Pressure. A. E. Mills.
26 Medical Defense in South Australia. W. T. Hayward.
27 Case of Gangrene of the Ileum. E. H. Binney.
28 Case of Malta (Undulant) Fever. T. S. Dixson, Gillespie, and A. Aspinall.
29 British and Foreign Clinics. R. Worrall.
30 Case of Fleshy Mole. J. W. Browne.

22. **The Precipitin Reaction in Hydatid Disease.**—Welsh finds that the interaction between selected hydatid fluids and the serum (antiserum) of a patient affected with hydatid disease has never failed to give a positive precipitin reaction. Not all hydatid fluids, however, are capable of eliciting a positive reaction, and this failure is not associated with any noticeable diminution of their protein content. Persistence of a marked reaction some weeks after operation probably indicates the continued presence of the parasite, but the disappearance of the reaction does not necessarily indicate complete removal of the cysts. A positive reaction is independent of the site of the hydatid cyst (hepatic, peritoneal or muscular), and independent also of the nature of its contents (clear, turbid or purulent).

25. **High Blood Pressure.**—Mills insists on the importance of instrumental aid, and asserts the impossibility of gauging with anything like accuracy by the finger the approximate amount of increased blood pressure, though the fact of such increase may be easily perceptible. He uses the instrument three or four times a day, and is surprised to find what a number of people have increased pressure. As a rule, pressure is high in the obese, and he has found that in patients with high blood pressure inquiry not infrequently elicits the information that one of the parents died of a paralytic stroke. Many people with high blood pressure have led blameless and, so far as alcohol goes, temperate lives. Overeating, though the charge is often resented, is commonly the cause, especially in female patients who are becoming fleshy. He discusses high blood pressure: 1, In relation to heart and respiration; 2, in relation to arteriosclerotic or granular kidney; 3, as affected by diet, and 4, as affected by drugs. In regard to the effect of drugs on blood pressure he is disappointed in all the drugs usually recommended—potassium iodid, nitrites, erythrol tetranitrate, potassium acetate, and ammonium acetate. He asserts, however, that opium, all pharmacologic assertions to the contrary notwithstanding, or its derivative, morphin, in arteriosclerotic cases in which the usual pressure from any cause is increased always relieves the increased blood pressure, affording relief to immediate symptoms. The fact that the livid skin gives place to a marked flush suggests that the fall is due, in part at least, to dilatation of the superficial vessels. He reports two cases of arteriosclerosis with granular kidney, in which acute dyspneic conditions were promptly relieved by the administration of morphin, the blood pressure falling in the first instance from 220 to 178 within an hour, and in the second from 200 to 170 in less than half an hour. In the first case the morphin given was ¼ grain (0.016), immediately followed in fifteen minutes by ⅛ grain (0.008), which was repeated in another fifteen minutes.

Glasgow Medical Journal.

March.

31 *Consumptive Sanatoria: Are They Worth While? D. Lawson.
32 *Case of Injury to Motor Area of Brain. G. B. Buchanan.
33 Multiple Exostoses in a Rachitic Subject. A. Young.
34 Operative Procedures in Disease of the Frontal and Sphenoidal Sinuses. W. S. Syme.
35 *Quinin Sulphate as Factor in Causation of Blackwater Fever. D. McCay.

31. **Consumptive Sanatoria.**—Lawson discusses individually the historical, clinical and commercial objections to consumptive sanatoria, and considers them disproved. He adds some notes on the sanatorium movement in America, New Zealand, Norway, Sweden and other countries.

32. **Injury to Brain.**—Buchanan describes the case of a ship's carpenter on whom a block of wood, one foot square by three feet long, fell from a height of twenty-five or thirty feet, inflicting a compound fracture of the skull. A piece of wood was imbedded in the brain. The peculiar points about the case are: The small amount of damage done by the wood falling from such a distance, the concussion being so slight that the patient regained consciousness more or less, before arrangements were made to remove him from the scene of the accident to the hospital; the absence of suppuration, notwithstanding the dirtiness of the wound and the continued loss of brain substance, a fact culled from repeated cultures of the discharge; the relief of restlessness and insomnia by the re-

moval of surface irritation and the recovery of certain parts formerly paralyzed, just as in cases of cerebral hemorrhage followed by rigidity; the absence of Jacksonian attacks in spite of the extensive cicatricial process, confirming the general rule that such attacks almost never appear in recent attacks, but only after cicatricial contraction has been well established.

35. This article was published in the *Indian Medical Gazette*, December, 1907, and was abstracted in THE JOURNAL, Jan. 25, 1908, page 319.

Journal of Laryngology, Rhinology and Otology, London.

March.

36 *Abnormal Pulsating Vessels in the Pharynx. J. G. Connal.
37 *Chronic Middle-Ear Deafness. W. S. Bryant.

36. **Abnormal Vessels in the Pharynx.**—Connal reports nine cases, with notes of three others, showing abnormal pulsating vessels in the pharynx. In some cases the pulsating vessel was bilateral. It was situated behind the posterior pillars of the fauces and in most cases ascended to the nasopharynx. The choice as to the identity of the vessel seems to lie between the ascending laryngeal artery and the internal carotid.

37. **Middle-Ear Deafness.**—Bryant summarizes twenty-four cases, which he considers show that all forms of middle-ear deafness, except the congenital cases, are amenable to treatment, and that the amount of improvement justifies the effort expended.

Annales de l'Institut Pasteur, Paris.

February, XXII, No. 2, pp. 97-208.

38 Experimental Research on Treatment of Trypanosomiasis. A. Laveran and A. Thiroux.
39 Antibodies of Albuminoids and Cells. M. Nicolle and G. Abt.
40 New Researches on Toxin and Antitoxin of Cholera. A. Salimbeni.
41 Normal Intestinal Flora of Children Between 1 and 5. H. Tissier.

Bulletin de l'Académie de Médecine, Paris.

February 25, LXXII, No. 8, pp. 251-294.

42 "Catching Cold" in the Origin of Diseases. (Le froid et les maladies "a frigore.") Kelsch.
43 *Quinin in Treatment of Exophthalmic Goiter. Lancereaux and Paulesco.
44 Was Montaigne a Hypochondriac? Armaingaud.
45 *Diagnostic Importance of Partial Hypertensions in Respect to Symptoms and Complications of Arteriosclerosis. J. Teissier.

March 3, No. 9, pp. 295-314.

46 Plate to Wear on the Lower Teeth to Break Up Habit of Biting the Nails. (Traitement de l'onychophagie par les appareils de prothèse dentaires.) Didsbury.

March 10, No. 10, pp. 315-326.

47 *Thyroid Treatment of Chronic Rheumatism. Leopold-Lévi, H. de Rothschild and Lancereaux.

43. **Quinin in Exophthalmic Goiter.**—Lancereaux attributes the symptoms in this affection to the active vasodilatation, primary or reflex, in the vessels of the head and neck. This explains, he thinks, the enlargement and excessive functioning of the thyroid, the cerebral symptoms, tachycardia, tremor and emaciation. Quinin is remarkable for its pronounced vasoconstricting action on the vessels of the head and neck; and thus seems ideally adapted, he says, to cure the vasodilatation of exophthalmic goiter. He has used it in treatment of twenty-one patients since 1898, and announces that the results have been satisfactory. He administers it in doses of 15 or 22½ grains (1.-1.50) at the evening meal, divided into three capsules, taken at fifteen-minute intervals; he keeps this up for twenty days each month, with suspension for ten days. He generally commences with 7½ grains (0.50) and sometimes supplements the action of the quinin with another powerful vasoconstrictor—ergot—giving from 1½ to 7½ grains (0.10 to 0.50) daily, in the morning. One of his patients took from 15 to 22½ grains (1.-1.50) quinin every day for six months with scarcely any intermissions and can now be regarded as clinically cured. A clinical cure was the rule in all his cases.

45. **Localized Partial Hypertension and Arteriosclerosis.**—Teissier relates a number of instances of arterial hypertension localized in a certain region or side of the body. Under normal conditions the dorsal artery of the foot shows a difference of about 3 cm. mercury and the temporal artery of about 7 cm. in comparison with the pressure at the radial artery. These differences are modified by localized arteriosclerosis in any region. When the hypertension is general, he ascribes it to some kidney affection if there is any tendency to albuminuria. If the kidneys are sound the general hypertension is usually the result of excessive functioning of the suprarenals, especially if noted in a young patient. The localized hypertension corresponds to and parallels some localized visceral or vascular change. By reflex action this may induce a spasmodic contraction of the peripheral capillaries in the tributary vascular zone, and if often repeated the condition may become chronic. In some patients he observed excessively high pressure in the temporal artery on one side, and very soon glaucoma in the eye on that side developed. One patient had a pressure of 22 cm. in the dorsal artery of the foot, 18 cm. in the radial artery, and 14 cm. in the temporal artery. It was noticed that when the pressure increased above these figures in the parts below the diaphragm, sugar appeared in the urine. In another case, a patient with sclerous nephritis presented one day a pressure of 23 cm. in the right temporal artery, and almost at once facial paralysis developed, followed by fatal syncope. When there is excessive tension in the temporal artery, localized or diffuse cerebral disturbances are generally impending. Excessive tension in the artery of the foot corresponds to manifestations localized in the abdomen, arteriosclerosis of the vessels of the stomach, intestine, abdominal aorta, pancreas, etc. Excessive tension in the vessels of the arms corresponds to sclerotic changes in the thoracic aorta or coronaries. He illustrates these various types by a number of examples.

47. **Thyroid Treatment of Chronic Rheumatism.**—The first two authors report 39 cases of chronic rheumatism during the last three years in which treatment was with desiccated and pulverized sheep thyroids; from one to three doses a day of 10 cg. each, equivalent to 50 cg. of fresh glands, were given. The patients' ages ranged from 12 to 75 years, and in 5 cases the deformity resulting from the rheumatism had confined the patients to bed for years. In 9 other cases the persistence of the pains, recurrence of subacute attacks and deformities were very distressing. In 19 grave or severe cases, 2 of the patients can now be regarded as clinically cured under the treatment, and in 14 cases there was great improvement either in the pain, the functional impotence or the deformity in the joints or elsewhere. In 20 moderate or mild cases of chronic rheumatism, 18 of the patients were immeasurably improved or cured. The results were better the more recent and milder the cases. The benefit has persisted in the various cases. Lancereaux has been preaching the benefits of thyroid treatment for chronic deforming rheumatism for nearly nine years.

Revue de Médecine, Paris.

January, XXVIII, No. 1, pp. 1-88.

48 Spasmodic Cerebral Hemiplegia at 12. Bouchaud.
49 Pathology of the Meninges. A. Porot.
50 *Attacks of Sleep and Epileptic Narcolepsy. A. Sézary and C. de Montet.

February, No. 2, pp. 89-208.

51 *Mute Pneumothorax. (Le pneumothorax muet.) C. Sabourin.
52 *Pathogenesis and Treatment of Hemophilia. M. Labbé.
53 Influenzal Splenopneumonia with Hemoptysis. Romant and Guignot.
54 Marmorek's Serum in Tuberculosis. E. Uhry.
55 Paroxysmal Symptomatic Tachycardia and Gastroenteroptosis. G. Reynaud.
56 Glycogenesis without Glycogen. (Dégagement de glycose aux dépens du sucre virtuel.) R. Lépine.
57 *Syndrome of Familial, Spasmodic Paraplegia. A. Deléarde and I. Minet. Commenced in No. 1.

March, No. 3, pp. 209-304.

58 *Familial Spasmodic Paraplegia. A. M. Bono.
59 Anatomic Study of Pleuro-cortical Reactions. L. Mallolzel.
60 *Influenzal Aortitis with Thrombosis of Basilar Artery. (Etude des aortites grippales.) M. Marmorstein.

50. **Attacks of Sleep.**—Sézary and Montet describe two cases of children of 8 and 15 who suddenly dropped to sleep during the day, sometimes ten or fifty or more times. The sleep lasted a few seconds or minutes; it came on without prodrome and the child woke with mind clear. The sleep occurred in one case at about the same hours each day, but in the other at irregular hours. The fear of danger or of punishment sometimes postponed the attacks. Bromids and deprivation of salt had no effect, but marked improvement amounting to a cure to date in one case was obtained with isolation and psycho-

therapy. In the older patient there were indications of angioneurotic edema, and transient hysteric hemiplegia developed later. Both children were girls, standing well in their classes, and there was nothing otherwise to suggest epilepsy. Psychotherapy for children must be of the imperative type, Dejerine says; he calls it "schoolmaster therapeutics." The children are scolded, humiliated or punished, the appeals being to their pride, emphasizing their faults.

51. **Mute Pneumothorax.**—Sabourin applies this term to a pneumothorax which gives no sign of its existence although functional symptoms point to its presence. He gives the details of four such cases and the autopsy findings in a fifth in which the pneumothorax had not been diagnosed during life. In the four clinical cases the pocket of gas behaved like a tumor for a time, mute so far as external manifestations were concerned. Then the contents of the pocket broke through the adhesions which had caused its encapsulation, and at once its presence was revealed by auscultation findings, etc.

52. **Hemophilia.**—Labbé's extensive study of hemophilia concludes with a review of the various measures that have been employed in treatment. All have occasionally been successful, but far oftener have demonstrated utter inefficiency. He thinks that a fortunate coincidence is probably responsible for the few successes reported. He also remarks that the syndrome of hemophilia may be due to a number of different causes and may be benefited by different measures in different cases. The largest proportion of cures has been obtained with injections of fresh normal blood serum—human, horse or rabbit—as suggested and practiced by P. E. Weil. (See editorial in THE JOURNAL, Jan. 18, 1908, page 209.) This seems to be the remedy needed for the inherited or sporadic hemophilia resulting from insufficiency of the blood plasma, but it can do little good in hemophilia resulting from abnormal permeability of the vessel walls. In sporadic hemophilia intravenous injection of from 10 to 20 c.c. of fresh serum causes coagulation to occur in a few minutes instead of the seventy-five-minute interval previously noted in some patients. It thus allows an operation to be performed without dread of abnormal hemorrhage. The effect of the serum is at its height in forty-eight hours, but it has entirely passed away by the end of five weeks. Repetition of the injection then has the same effect as at first. In familial hemophilia the effect is less marked. Coagulation is hastened, but it is not rendered normal; the hemorrhagic tendency, however, becomes less pronounced. Rebellious hematuria subsided in one case and vanished by the third day. The effect of the serum is not evident for longer than a month in the familial cases. The serum should be fresh, at most not over fifteen days old; human, horse or rabbit serum can be used, or even antidiphtheria serum. Beef serum must be avoided as a febrile reaction is liable. The dose is from 10 to 20 c.c. injected into a vein at the elbow. If a subcutaneous injection is made this dose should be doubled. Gauze dipped in the serum has a powerful hemostatic action when a bleeding wound is dressed with it or the nose plugged in rebellious epistaxis. The gauze has proved successful in a number of cases in which hemorrhage persisted for hours after extraction of a tooth.

57. **Familial Spasmodic Paraplegia.**—Delcarde and Minet report the case of a girl, three of whose brothers and sisters had succumbed to the syndrome of spasmodic paraplegia, and she was fast traveling the same road. They regard the syndrome as common to a number of familial affections of different nature and localization, ranging from pure spinal paraplegia to cerebral diplegia, amyotrophic lateral sclerosis, cerebellar heredoataxia, familial sclerosis in patches, etc. The intelligence may be normal or may be impaired to total mental decay, and the prognosis is grave, although the affection in itself is not menacing. Treatment is powerless to arrest it, but hot baths, massage of contractured members and mobilization of joints are recommended. Electricity should be applied only with great caution, as it might exaggerate the contractures and accelerate the course. Physical fatigue should be avoided, especially exercises requiring repeated movements by spinal reflex action as in bicycle riding. Section of nerves and of tendons has been done a number of times in recent years—sometimes with negative and sometimes with favorable results. The question of surgical treatment is to come up for discussion at the next French congress of surgery. The history, symptomatology, etc., are discussed and summaries of 59 cases from the literature are appended with a hitherto unpublished typical case of a girl, nearly 4, three of whose brothers and sisters had succumbed to the same affection; three older sisters were healthy except for transient chorea in one and a transient series of convulsions in another.

58. **Id.**—Bono goes over much the same ground and adds the details of two cases personally observed. One was in a painter, 39 years old, the other in a woman of 28. In both the first sign of trouble was observed about the twelfth year.

60. **Influenzal Aortitis.**—Marmorstein's two patients both had primary aortitis with secondary thrombosis of the basilar artery, without hypertrophy of the left ventricle. One patient succumbed; the pulmonary edema and unconsciousness in this case had masked the aortic symptoms. He agrees with Thayer and Brush that infectious aortitis is much more frequent than is generally recognized, citing their article in THE JOURNAL, Sept. 10, 1904, page 727. Chronic lesions may develop later from the acute infectious process, especially dilatation of the aorta and aneurismal weakening and thinning of the walls. In two other cases he was able to find evidences of acute dilatation of the aorta on the basis of old aortic lesions. Dynamic forces are not responsible altogether for the dilatation in these cases. He thinks that there is reason to accept the assumption that acute aortitis may develop in young people entirely free from chronic lesions in the aortic wall. This acute aortitis may occur in the course of influenza or alone, with or without inflammatory processes in the other arteries or endocardium. If the process involves the valves, aortic insufficiency may develop as the last stage of the evolution of acute aortitis. The acute aortitis is revealed by dyspnea, dulness over the aorta, distressing, retrosternal pain and pallor. The pyogenic properties of the influenza bacillus and its discovery in the suppurating focus in his case suggest that this bacillus is chiefly responsible in these cases.

Archiv für Kinderheilkunde, Stuttgart.

XLVII, Nos. 4-6, pp. 241-484. Last indexed, Feb. 1, p. 408.

61 *Orthostatic Purpura in Children with Tuberculous Heredity. (Orthostatische Symptome bei Purpura mit Tuberculose hereditär belasteter Kinder.) M. Wolf.
62 Transmission of Antibodies from Mother to Child. (Antikörperübertragung von Mutter auf Kind.) M. Pfaundler.
63 *Diagnosis of Congenital Heart Defect and Importance of "Different Pulse" for Differentiation. (Fall von angeborenem Herzfehler.) J. A. Schabad.
64 *Tuberculin Test Injections and Inoculations of Infants. (Diagnostische Tuberkulininjektionen und Impfungen bei Säuglingen.) A. Reiche.
65 Serotherapy of Scarlet Fever. (Serumtherapie bei Scharlach.) L. Blilk.
66 *Convulsions in Children and Their Consequences Later. (Kindliche Krämpfe und ihre Folgen für das spätere Alter.) K. Potpeschnigg.

61. **Orthostatic Purpura in Tuberculous Children.**—In this communication from Baginsky's clinic at Berlin, Wolf reports five cases of purpura in children with tuberculous parentage. The purpura developed without any apparent cause, without an intercurrent affection, and without any evidences of possible transmission from one patient to others. There were no signs of tuberculosis in the children except spondylitis in one. Study of the conditions in these cases has strengthened the assumption that purpura is not always due to the same cause, and that it is by no means an independent entity. It is merely the result of disproportion between the blood pressure and the resistance of the vascular walls. In tuberculous children the purpura seems to be essentially orthostatic. In these conditions it may possibly prove a useful warning. Any attempt to act on the purpura by administration of drugs internally is futile. No remedies produced the slightest effect in his cases, and ergot and other drugs to induce contraction of the vessels are directly contraindicated as they increase the blood pressure even more by narrowing the vessels. After administration of ergot in these cases blood appears in the urine with much disturbance of the general health and fever.

The same negative results can be expected from hydrastis and suprarenal preparations. Ferric chlorid and lime proved equally useless. Great benefit, however, was derived from bandaging the legs to the hip, supplementing this by iron and arsenic internally. The children were allowed to be up and out of doors as soon as the purpuric patches had lost their red color. The cases in the literature also confirm the orthostatic nature of purpura in tuberculous children.

63. **Congenital Heart Defect.**—The signs in the case reported indicate, Schabad is convinced, that the child has stenosis of the pulmonary artery with a defect in the ventricular septum. There are no positive signs indicating patency of the duct of Botallo. Among the signs observed are the Gerhardt dulness, a difference between the pulse in the radial arteries on the two sides, the somewhat accentuated second sound over the pulmonary artery and the propagation of the sound into the large vessels. Seven cases of pulsus differens are cited from the literature. In Popoff's case the difference vanished under regained compensation in a case of combined stenosis of the left venous ostium and bicuspid insufficiency. The pulse was weaker in the left radial artery, which he ascribed to pressure on the aorta near the origin of the subclavian artery by the excessively dilated left ventricle, auricle and pulmonary vessels. In nearly all the cases of pulsus differens on record the patency of the duct of Botallo has been assumed, but Schabad thinks that this can not be the case in his patient. He is a boy of 9 with striking cyanosis, drumstick fingers, no edema, hemoglobin 115 per cent. He has passed through measles, scarlet fever, diphtheria, typhoid and whooping cough, but the cyanosis was noticed by the mother at five months, and he has always been subject to occasional attacks of dyspnea, when he would scream and fall unconscious. In a few minutes the attack would be over and the child playing as before, except for tachycardia. No signs of convulsions or biting the tongue had ever been observed. These attacks had been frequent in early life, but lately had occurred only two or three times a month. Three skiagraphs show the heart, front and back.

64. **Tuberculin Test Injection and Inoculation of Infants.**—Reiche gives the details of 39 cases in which infants were given an injection of tuberculin or were inoculated with it for accurate diagnosis. He considers it as necessary that tuberculous infants should be isolated as tuberculous adults. About 225 injections were made on 39 weakly infants suspected of tuberculosis, but only 4 gave a decided positive reaction, and at autopsy of 2 of this group no traces of tuberculosis could be discovered, as was also the case in 2 other infants out of a group of 6 who responded to the injections with a dubious reaction. The v. Pirquet cutaneous inoculation was tried on 105 infants without a positive response in any instance. His conclusions from this research, and from experiences in the same line with older children, are that tuberculin seems to act like a toxin in a weakly infant, irrespective of the presence or absence of tuberculosis. In older children tuberculin injections have great diagnostic value, even more than in adults, but it is different with infants, especially those under six months old. These experiences further emphasize, he says, the rarity of tuberculosis in infants, even among the very poor. Among 250 infants examined during the last year he found only one with certain tuberculosis, confirmed by autopsy. Consequently, latent tuberculosis can not be accepted as the explanation of the lack of thriving of certain infants. He warns in conclusion that these exploratory injections of tuberculin can by no means be regarded as absolutely harmless for infants.

66. **Convulsions in Children and Consequences Later.**—Potpeschnigg reports from Pfaundler's children's clinic at Munich 109 cases of children with convulsions with the later history of a large number. Fully 45 per cent. were breast-fed entirely or partially; the first convulsions were observed between the ages of four months and three years. The boys somewhat outnumbered the girls, and in 20 cases other children in the same family were affected. The mortality was unusually high, fully 72 per cent. of all the children died, and 52.6 per cent. of those who left the hospital alive died before puberty. In 37 children with no apparent affection except the convulsions, 57 per cent. died in the clinic. The number of attacks became reduced, as a rule, during the stay in the clinic, whether phosphorus and cod liver oil were given or not. The bowels were kept open and the diet restricted to tea, diluted milk and gruels without any appreciable influence from these measures being apparent. He concludes from his experience and from study of the literature that a tendency to convulsions—"spasmophilia"—in children is a severe permanent injury, at least in its more pronounced degrees. It is immaterial from this point of view whether the tendency is manifested in tetany, laryngospasm or actual convulsions. A large number of such children, if they survive the first attacks, especially the laryngospasm, do not live long thereafter; only a fraction grow up in good health. The majority suffer from organic or neuropathic affections, and epilepsy or its equivalents may develop later, but must then be differentiated from latent "spasmophilia." They usually develop during the stress of puberty or of some external cause, fright or other emotion. The functional character of the affection must be kept in view without entirely losing sight of the favoring influence of the diet and of thyroid functioning. In the experiences related, the severer manifestations occurred, as a rule, in families with an inherited neuropathologic taint, but epilepsy was not discovered in the ancestry in any instance. In many cases the tetanoid child had both older and younger healthy brothers and sisters. All this material is reviewed from various standpoints and tabulated, special regard being paid to the differentiating signs. The Erb sign was present in all the 109 cases, the Trousseau sign in 86.6 per cent., and rachitis also in a very large proportion. The spasmophilia develops generally in the winter months into March with but few exceptions.

Archiv für klinische Chirurgie, Berlin.

LXXXV, No. 3; pp. 615-840. Last indexed, April 4, p. 1155.

67 Experimental Necrosis of Pancreas and Cause of Death in Acute Pancreatic Affections. N. Guleke.
68 Relations Between Bacterial Findings and Clinical Picture in Acute Appendicitis. (Beziehungen zwischen dem Bakterienbefunde und dem klinischen Bilde bei der acuten Wurmfortsatzentzündung.) M. Cohn.
69 Operative Treatment of Perforated Gastric Ulcer. (Operative Behandlung des perforierten Magengeschwüres.) A. von Khautz, jun.
70 Radical Operation for Excessively Large Hernias with Aid of Systematic Stretching of Abdominal Walls. (Ueberhernien.) J. Hahn.
71 Experimental Study of Influence of Suction Treatment on Local Foci of Inflammation. (Einfluss der Saugbehandlung auf locale Entzündungsherde.) P. Frangenheim.
72 Foreign Bodies in Upper Part of Esophagus with Special Reference to Their Removal from the Exposed but not Incised Esophagus. (Fremdkörper im oberen Theile des Oesophagus, mit bes. Berücksichtigung ihrer Entfernung aus der freigelegten, aber nicht eröffneten Speiseröhre.) H. Thiemann.
73 Principles of Conception, Etiology and Treatment of Coxa Vara. F. Kempf.
74 Typical Injury of Lower End of Femur. (Typische Verletzung am unteren Femurende.) A. Stieda.
75 Compression Fracture of Head of Humerus. F. Staffel.
76 Apparatus for Treatment of Oblique or Compound Fractures of the Leg. (Apparat für die Behandlung der schrägen oder complicierten Fracturen des Beines.) E. Martini (Turin).

Berliner klinische Wochenschrift.

February 17, XLV, No. 7, pp. 341-388.

77 Organization of Bacteriologic Determination of Epidemic Disease in Prussia. (Bakteriologische Seuchenfeststellung.) M. Kirchner.
78 Treatment of Perforation of Ulcers in Stomach and Duodenum. (Behandlung des Durchbruchs von Magen- und Duodenalgeschwüren.) M. Jaffé.
79 Hemolysis by Combinations of Sodium Oleate, Oleic Acid, Silicic Acid and Serum. (Hämolyse durch Kombinationen von ölsaurem Natrium, Oelsäure, Kieselsäure und Serum.) von Dungern and Coca.
80 The So-called Nodose Periarteritis. C. Benda.
81 Differentiation of Various Kinds of Plant Albumin by the Aid of Specific Sera. (Unterscheidung verschiedener Pflanzeneiweissarten mit Hilfe spezifischer Sera.) D. Gasis.
82 Connection Between Anatomy and Affections of the Pancreas. A. W. Mayo Robson. Commenced in No. 6.

February 24, No. 8, pp. 389-440.

83 Treatment of Fistula of the Pancreas. J. Wohlgemuth.
84 Mechanism of Pancreatic Secretion During Digestion. Id.
85 Extractives in White and Dark Meat. (Gehalt an Extraktivstoffen des dunklen und weissen Fleisches.) M. Adler.
86 Diagnosis of Gastric Ulcer. (Ulcus ventriculi.) M. Bönniger.
87 Experimental Arterionecrosis. G. Morelli.
88 Hemolytic Action of Normal Beef Serum with Less Salt Content. (Hämolytische Wirkung des normalen Rinderserums bei vermindertem Salzgehalt.) K. Tsuda.

89 Route of Infection with Tuberculosis. A. Most.
90 Inhalation of Mercury in Syphilis. (Neue Quecksilberinhalationskur bei Syphilis.) Kromayer.
91 Automobile Fracture of Scaphoid. (Fraktur des Kahnbeins.) S. Peltesohn.
92 Selection of Children for "Vacation Colonies." (Auswahl der Kinder für die Ferienkolonien.) B. Salge.

Deutsche medizinische Wochenschrift, Berlin.

March 5, XXXIV, No. 10, pp. 401-448.

93 *Intravenous Injections of Quinin in Syphilis. (Eine neue Behandlungsmethode der Syphilis.) R. Lenzmann.
94 Electric Fulguration Treatment of Cancer. (Carcinombehandlung nach Keating-Hart.) Benckiser and Krumm. Id. Nagelschmidt.
95 Operative Treatment of Emphysema of the Lungs. (W. A. Freundsche Operation.) M. Cohn.
96 Locally Aggressive Lymphomatosis. Case with Testicular Tumor. A. Salomon.
97 Myotomy During Pregnancy on Account of Axial Torsion of Uterus. F. Spaeth.
98 Experimental Transmission of Common Warts from Cattle to Man. (Experimentelle Uebertragung von Verrucae vulgares vom Rinde auf den Menschen mit ausserordentlich langer Inkubation.) F. Schultz.
99 Legal Decisions of Interest to Physicians. (Rechtsfragen für die ärztliche Praxis.) Flügge.

93. Quinin Treatment of Syphilis on New Principle.—Lenzmann has revived the treatment of syphilis with quinin, modeling it on the dosage of arsenic in trypanosome affections. He injects 7½ grains (0.50) quinin hydrochlorate and repeats this dose the next day, then injects 9 grains (0.60) and repeats this latter injection four times at four-day intervals. By the ninth intravenous injection all symptoms had vanished in his cases. In order to obtain the beneficial action of hyperleucocytosis he makes additional injections of a mixture of 40 parts nucleinic acid and 60 parts quinin, one part of this mixture being suspended in 20 parts olive oil; 10 c.c. of the suspension is the dose for intramuscular injection. His experience with fourteen patients has demonstrated to his satisfaction—as he describes in detail—the prompt curative action of the quinin. Whether the cure will be permanent or not, time alone will show. This technic, he says, may prove useful in cases in which mercury fails or is not tolerated. As a rule he uses from 4.5 to 5.5 gm. (67-82 grains) quinin hydrochlorate in the course of from fourteen to twenty days.

Medizinische Klinik, Berlin.

March 15, IV, No. 11, pp. 352-390.

100 Diagnosis and Treatment of Acute Cholecystitis. L. Arnsperger.
101 Clinical Importance of the "Conditional Reflex." (Der bedingte Reflex.) A. Bickel.
102 *Reaction and Induced Phenomena During Courses of Hydrotherapy. (Reaktions- und Provokationserscheinungen bei hydriatischen Kuren.) C. Kraus.
103 Treatment of Epilepsy. P. Leubuscher.
104 *Attempt to Apply to Syphilis the Principle of the Ocular and Cutaneous Differential Reactions as Practiced in Tuberculosis. (Die vitale Antikörperreaktion im Vergleich zur Komplementbindungsmethode bei Tuberkulose und Syphilis.) A. Wolff-Eisner.
105 Campaign Against Tuberculosis in Children. (Tuberkulosebekämpfung im Kindesalter.) W. Hufnagel.

102. Induced Phenomena During Course of Hydrotherapy.—Kraus applies the term *Provokationserscheinungen* to such experiences as the following: A patient was being treated with local douches and packs to relieve chronic recurring pain in the perineal region, with other measures for an old chronic urethritis, when signs of a small abscess in the prostate became apparent the fourth day of the treatment. In other cases an attack of malarial fever was observed soon after commencing the hydrotherapy. It is evident, he declares, that latent foci of infection may be aroused to renewed or primary activity by the stress of the hydrotherapeutic measures. In one case a patient developed intense slightly febrile chorea while under treatment for relics of subacute articular rheumatism. He has never observed severe hemoptysis in consumptives directly after hydrotherapeutic measures, and Brehmer's experience confirms this. One tuberculous patient with cavities in the lungs, showing marked clinical improvement under hydrotherapy, took his usual chamber douche at 7 a. m., spent the morning reclining, ate a hearty dinner, and succumbed at 2 p. m. to fulminating hemoptysis, evidently the result of the digestive raising of the blood pressure. Kraus has sometimes noticed that patients had toothache after the hydrotherapeutic measures; it is not neuralgia, but is merely the flaring up of some latent carious process. He consequently advises patients to have their teeth put in order before taking the course. Caution in application of the measures will prevent the flaring up of an old adnexitis or gonorrheal genital process. In treatment of joint affections the aim is to realize that degree of hyperemia which promotes absorption of morbid products; too little is absolutely ineffectual and too much does harm. The tissues must be coaxed into proper assimilation. Experience brings skill in the application of the measures, and this is the main point, not so much the special technic. Besides these "induced phenomena," there may be an isolated morbid reaction to the hydrotherapeutic measures. A day or two of rest usually restores conditions to normal in this respect. This disturbance in the vasomotor reaction to the nerve stimulus is most liable to persist longer in nervous persons with a tendency to arteriosclerosis. There may be nervous crises, vertigo or buzzing in the ears, but these are transient and can be avoided by caution. Although such patients can not be delivered from their arteriosclerosis, yet they can be relieved from many of its unpleasant consequences. He even goes so far as to maintain that if the aim is kept constantly in view—to adapt the work of the tissues to the given disturbances—hydrotherapy stands in the front rank of measures for such cases. Paralysis absolutely excludes hydrotherapy, and if it is even suspected, caution must be exercised. In syphilis these measures are liable to induce cutaneous manifestations, bringing on the secondary cutaneous stage. They are, therefore, sometimes extremely valuable for revelation of a latent syphilis, both in the primary and secondary stage, while their general tonic effect on the system may be invaluable.

104. Differential Ocular and Cutaneous Reactions in Tuberculosis and Syphilis.—Wolff-Eisner relates experiences which seem to promise that the same principle of a biologic reaction to instillation of or inoculation with tuberculin in the tuberculous can be also obtained with a preparation of syphilis virus in the syphilitic. The question now is to find a suitable extract to take the place in syphilis of the tuberculin in tuberculosis.

Münchener medizinische Wochenschrift.

March 10, LV, No. 10, pp. 489-544.

106 Behavior of Heart After Prolonged and Exhausting Bicycling. (Untersuchungen an Teilnehmern der Fernfahrt Leipzig-Strassburg, 1907.) H. Dietlen and F. Moritz.
107 *Absorption of Fat by Infants. (Fettresorption des Säuglings.) Schelble.
108 Research on Opsonins. H. Much.
109 Bactericidal and Hemolytic Action of Substances in Leucocytes, Blood Plates and Lymph. (Bakterizide und hämolytische Wirksamkeit der Leukozyten- und Plättchenstoffe sowie der Oedem- und Gefässlymphe.) R. Schneider.
110 Binding of Complement. (Methodik der Komplementbindung.) A. Lode and F. Ballner.
111 *Cutaneous Reaction to Inoculation with Diphtheria Toxin. B. Schick.
112 *Clinical Importance of Difference Between Temperature in Axilla and Rectum, Especially in Peritonitis. Propping.
113 Color Photography and Its Application for Clinical Demonstration. (Lumièresche Farbenphotographie.) Wilms and Eggenberger.
114 *Medicine Glass. (Medizineinnehmeglas.) Strube.
115 Exudation of Cholesterin in Pleural Cavity. Ruppert.
116 Tearing Loose of Mesentery in Contusion. Recovery After Resection of 115 cm. of Intestine. (Ausgedehnte Mesenterialabreissung.) Autenrieth.

107. Absorption of Fat by Infants.—Schelble describes a simple method with which he was able to supervise the extent and time required for absorption of fat in infants, and tabulates his findings in 100 tests. He regards the hemoconias or "blood dust" seen in the blood with the ultramicroscope as consisting of particles of fat, and notes that the turbidness of the serum is proportional to the number of these fat particles. He never found this blood dust in fasting children nor in those fed exclusively on oatmeal gruel. A single drop drawn from the great toe is enough for the test. The absorption reaches its highest point between the second and third hours, and examination of the blood at this time will show the extent of the process in the child in question. It is dependent on the age and condition of the child, the amount of fat ingested and the length of the interval since the meal. Comparison with a normal standard gives the best oversight of the conditions, especially with a graduated series of standards showing different

grades of turbidity. The findings in his tests showed that the fat ingested seemed to be evenly distributed through the blood, both in adults and in infants. The simple technic allows instructive oversight of the infants' capacity to absorb the fat ingested, and thus to regulate the diet to correspond to the individual needs and avoid accumulation of undigested fat in the digestive tract.

111. **Cutaneous Reaction to Inoculation with Diphtheria Toxin.**—Schick has been experimenting with cutaneous inoculation of diphtheria toxin and states that the reaction which follows is specific. There is no reaction if the diphtheria toxin is previously neutralized with the corresponding amount of antitoxin, or if a preventive injection of antitoxin is made the day before sufficient for passive immunization. His experience suggests that certain persons display a greater susceptibility to the diphtheria toxin than others. The cutaneous reaction to diphtheria toxin does not have much value as a diagnostic measure, but it allows the development and subsidence of toxic and antitoxic processes to be studied from a new point of view, liable to throw light on the problems of immunization, and also to establish a basis for scientifically accurate dosage for the given case.

112. **Clinical Importance of Difference Between Temperature in Rectum and Axilla.**—Propping calls attention to the difference in the temperature as recorded by the thermometer in the axilla and in the rectum. The difference between the two seems to be in inverse proportion to the amount of heat being generated in the muscles either by exercise or chemical processes. The temperature rose in the axilla under cold douches, exposure to cold air and during a chill in sepsis; this was evidently the result, he states, of enhanced chemical processes in the muscles of the axilla. One of the practical conclusions of this research is the discovery that in 25 out of 100 patients with appendiceal peritonitis the difference between the temperature in the rectum and in the axilla was exceptionally great—2 degrees Fahrenheit, or more—and in this group 12 of the patients died, while only 10 died out of the 75 other patients. He thinks that this shows that a great difference between the rectal and axillary temperature must be accepted as a bad omen, indicating unusually severe peritonitis. The rectal temperature is not high on account of the vicinity of the focus, as no abnormal difference was observed in certain cases of various other febrile abdominal affections, while it was present in others. The manner of origin of the fever is probably responsible for the varying conditions.

114. **Medicine Glass.**—To protect the teeth or to overcome the taste of medicine Strube uses a little tube inside a second tube. The first carries a glass bulb to hold the medicine, the outer tube carries a larger bulb for water. When the tip of the double tube is placed far back in the mouth and the outer end raised, so that the fluids run into the mouth, the stream of medicine is entirely surrounded with a stream of water.

Wiener klinische Wochenschrift.

March 12, XXI, No. 11, pp. 345-378.

117 Study of 15 Cases of Erysipeloid. M. Reich.
118 Polycythemia. J. Löw and H. Popper.
119 Clinical Study of Galvanic Auditory Reaction. (Galvanische Akustikusreaktion.) A. V. Mackenzie.
120 Value of Ocular Reaction to Tuberculin, Especially in Military Circles. (Ophthalmoreaktion.) A. Fertl.
121 *Serum Diagnosis of Syphilis. E. Klausner.
122 *Precipitation in Tuberculosis. E. Stoerk.

121. **Serum Diagnosis of Syphilis.**—Klausner's simplified serum diagnosis was summarized in THE JOURNAL, March 21, 1908, page 1002. He here reports the application of the technic in 110 syphilitic and 70 non-syphilitic patients. He draws a drop of blood from the finger in the morning and dilutes the serum one-third; that is, to 0.2 c.c. serum he adds 0.6 c.c. distilled water. The specific reaction was obtained in all but three of the syphilitic cases and the exceptions were in persons who had taken unusually prolonged and intense mercurial treatment. The reaction was also obtained in one case of severe inherited syphilis. Among the 70 presumably non-syphilitic patients, 5 with typhoid gave a positive reaction, 3 with pneumonia and 5 with lupus.

122. **Precipitation in Tuberculous Serum.**—Stoerk found that tuberculous serum sometimes shows precipitation merely on addition of a 0.5 per cent. solution of carbolic acid, without adding any antigen. This never occurred with non-tuberculous serum.

Zentralblatt für Chirurgie, Leipsic.

March 21, XXXV, No. 12, pp. 353-392.

123 *Prolonged Saline Infusion in Rectum. (Der protrahierte rektale Kochsalzeinlauf.) H. Seidel.
124 Sterilization of Metal Instruments. L. Spiegel.

123. **Technic of Prolonged Rectal Saline Infusion.**—Seidel describes the technic which has proved extremely satisfactory in recent years in Lindner's service at Dresden. He gives an illustration of the small stand for the irrigator; it is screwed to the edge of the bed and allows the irrigator to be raised or lowered at will, although the pressure is always very slight. It is important to use a tube too small to induce mechanical irritation of the sphincter; a Nélaton No. 20 answers the purpose, with a smaller one for children. A pint of the fluid is poured in the irrigator and the stopcock turned to allow the passage of only about one drop a second. At this rate five hours are required for infusion of one liter. Seidel thinks that one or two liters a day are sufficient, and even in the severest cases does not go above two or three. Cool fluid seems to stimulate the peristalsis more than warm, and there is no need for keeping the fluid in the irrigator at any special temperature. The body is supplied with the needed water, and the bowels stimulated to normal functioning. It is especially valuable in peritonitis.

Gazzetta degli Ospedali, Milan.

March 1, XXIX, No. 26, p. 265-280.

125 *Treatment of Typhoid. E. de Renzi.
126 *Poisoning and Anaphylaxis from Dead Red Corpuscles. Relations to Febrile Malarial Attacks. (Anafilassia necroeritrocitica.) S. Mircoli.
127 For Rodents, the Immunizing Power Against Rabies of Normal Nerve Substance is Equal to that of Pasteur Vaccine. (Confronto tra il potere immunizzante della sostanza nervosa normale e del vaccino Pasteur.) R. Repetto.

125. **Treatment of Typhoid Fever.**—De Renzi had not had a death from typhoid in his clinic until a month ago. He ascribes this success to the combination of fresh air, open windows, very cautious feeding, two quarts of milk and two eggs a day, abundance of cold water to drink, temperate and cold baths and spongings, and a certain amount of "hydrochloric lemonade." When the patient drinks from two to six quarts of water at 50 F. during the day, the water absorbs the heat from the tissues and helps to reduce the temperature. He says that intestinal antiseptics do not reach the actual morbid process, which is in the glands. There is always more or less nephritis in typhoid, he asserts, and most drugs are liable to affect the kidneys injuriously, but he approves of ichthyol.

126. **Dead Red Corpuscles a Source of Fever in Malaria?**—Mircoli believes that the febrile paroxysms in malaria are the result of destruction of the red corpuscles by the malarial parasites rather than of any special action or influence of the latter. The febrile attack may occur when there is not one parasite left in the blood, and it can be reproduced at will under the influence of chilling the body or trauma. He relates a series of experiments on rabbits and guinea-pigs which shows that the red corpuscle which has lost its vitality by desiccation, without other artificial injury, acts like a severe poison when reinjected into the animal, inducing not only fever, but also trophic and dynamic disturbances. It has a distinct pyrogenic power when injected under the skin. Besides the development of fever, symptoms are observed on the part of the nerves and metabolism which suggest that hypersusceptibility results rather than any tendency to immunization.

Hospitalstidende, Copenhagen.

January 15, LI, No. 3, pp. 49-72.

128 *Remarks on Ileus. H. Maag.

January 29, No. 5, pp. 97-128.

129 *Apparatus for Suction-Traction-Massage. (Sugetræk-Klokker.) L. Bramson.

February 5, No. 6, pp. 129-160.

130 *Uratic Psychoses. (Den uratiske Sindsygdom.) F. Lange. Commenced in No. 4.
131 Sterilizer for Sputum. (Sterilisator til Opspyt.) C. Bang and F. Toblesen.

February 12, No. 7, pp. 161-192.

132 Phototherapy. (Bidrag til Kendskabet om Lysbade.) V. Ble and H. J. Bing. Commenced in No. 6.

February 19, No. 8, pp. 193-216.

133 *Double Infection of Pleura and Peritoneum. H. Kaarsberg. Commenced in No. 7.

February 26, No. 9, pp. 217-248.

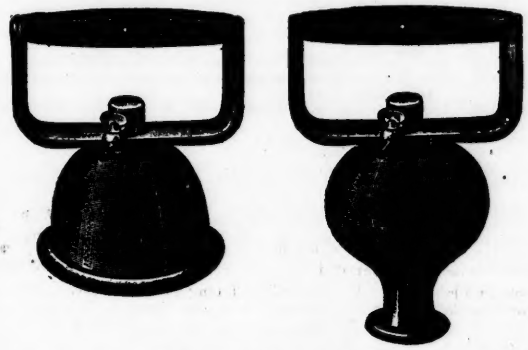
134 Disturbances in the Associated Movements of the Eyes. (Forstyrrelser i Øjets associerede Bevægelser.) H. Rønne. Commenced in No. 8.

March 4, No. 10, pp. 249-280.

135 *Nerve Lesions from Extirpation of Glands in the Neck. V. M. Westergaard. Commenced in No. 9.

128. **Ileus.**—Maag states that his experience has taught him that an operation is indispensable in every case of mechanical occlusion of the intestines that can not be remedied in any other way; also that the operation on a patient with ileus should invariably be preceded by thorough rinsing out of the stomach, and that the operation should be done as rapidly as possible, avoiding all unnecessary maneuvers. The stagnating contents of the intestine should be "milked" along or evacuated through a fistula into the intestine. In dubious cases it is well to leave the wound so that a secondary fistula can be made at need. In the after-treatment every effort should be made to promote intestinal functioning, and no opium should be allowed except for children after correction of an invagination.

129. **Suction-Traction-Massage.**—Bramson has perfected an instrument with which the benefits of vacuum suction are combined with traction alternating with pressure—the whole combined in his "suction-traction bell." The air is aspirated from the bell with an air-pump and then the bell is pulled out with the handle and then pressed in, thus alternating traction and deep pressure for massage of the tissues loosened by the suction into the vacuum. He describes his personal and clinical experience with this method of treating lumbago, sciatica, etc., and Clod-Hansen also reports extensive experience with it in neuralgia, headache, cicatricial contractures, relics of hematomata, false ankylosis, chronic spinal cord affections, nervous heart, stomach, abdominal and pelvic affections, cutaneous hyperesthesia, etc. The results have generally been good, lumbago and sciatica even of many years' standing soon yielding to the application of the suction bell. It is made of metal and the handle turns in a horizontal plane to adapt itself to the part to be treated. Bramson refrains from using the bell for patients with much arteriosclerosis or tendency to varices



or hemophilia, and Hansen adds to this list of contraindications, recent erysipelas, acute eczema or erythemata, as the application of the bell might induce a relapse. The latter says that the technic is as simple and easy as possible while it is absolutely harmless, even in its maximal application. The relief from pain is almost instantaneous. The technic also allows localization and individualization of treatment to the widest extent with the least demands on the time, strength and purse of both physician and patient. One writer says in regard to it that the action combines that of the old cupping methods (without their dangers) and that of Bier's constriction hyperemia, while at the same time the action of mechanical traction is superposed, either vibratory, continuous, rhythmic pumping or by jerks, according to the effect desired—the general aim being to loosen up the tissues beneath. After the application of the bell the part is in peculiarly favorable conditions for passive and active movements, application of electricity or other measures which then produce better effects. He sometimes greases the skin and moves the bell along from point to point, following the course of the nerve, cicatrix or muscle on which it is desired to act. There is no other means at the command of the physician, he concludes, with which localized hyperemia in the subcutaneous tissue can be induced to such an extent as with this suction-traction-massage.

130. **Mental Symptoms from Retention of Products of Metabolism.**—Lange reports ten cases of what he calls "uratic brain troubles," that is, periodically recurring depression of spirits—actual psychoses—due to retention of only partly oxidized products of food metamorphosis. In all the cases described the diagnosis was based on the discovery of uric acid crystals in the urine. The patients were between the ages of 38 and 58, with the exception of one girl of 17. The prognosis of the separate attack is good, he says, but recurrence is the rule.

133. **Double Infection of Pleura and Peritoneum.**—In the four cases of simultaneous infection of both pleura and peritoneum reported there were no signs of the involvement of the latter in two instances until late in the course of the disease. In three of the cases there was nothing to indicate that the appendix was responsible for the trouble, and in the other merely a possibility, although each of the cases had been diagnosed as appendicitis by experienced surgeons. The primary lesion was generally a subphrenic abscess.

135. **Nerve Lesions Following Extirpation of Glands in Neck.**—Westergaard has encountered two cases of serious symptoms from nerves suffering from involvement in the cicatrix after removal of tuberculous cervical glands. The cicatrix in each instance was over the emerging point of the accessory nerve and paresis of the trapezius muscle was the result, with pains, anesthetic areas, and disturbances in the shoulder suggesting arthritis without effusion. He reviews other cases in the literature of damage to the accessory nerve, and concludes that experience teaches that the incision for removal of the cervical glands must not be carried beyond a point corresponding to the middle of the posterior margin of the sternocleido muscle. The incision in the upper half of the neck should parallel the folds in the skin and, in the lower half of the neck, it should parallel either the folds in the skin or the sternocleido muscle. An accessory incision or several parallel incisions should be applied if the gland is so enlarged that it is necessary to extend the incision beyond this point. In case more extensive intervention is required, Küttner's technic is preferable to others as this respects the accessory nerve. One of the patients continued to have pains in shoulder and arm persisting in spite of vigorous treatment in the hospital. They were finally banished by the use of an apparatus which takes the place of the paralyzed trapezius muscle. A leather corset around the pelvis and trunk carries a hinged shoulder crutch which sustains the shoulder and with elastic pressure keeps the scapula in its normal place. The present entire absence of the previously constant pain confirms the assumption that the dragging of the shoulder is the cause of the pain in these cases of paralysis of the trapezius.

Hygiea, Stockholm.

February, XVII, No. 2, pp. 97-224.

136 *Psychopathology in Light of Medical History. (Psykiatriska sjukdomsformer i historisk belysning.) B. Gadelius.

137 *Historical and Critical Study of Prevailing Views on Morbid Heredity. (Läran om den förvandlande ärftligheten jämte en anti-hypotes.) E. Vestberg.

138 *Successful Tendon Transplantation for Industrial Accident. (Fall af sentransplantation.) K. Dahlgren.

139 *Pneumonia and Alcoholism. A. Karlsson.

136. **Historical Psychopathology.**—Gadelius reviews the historical instances of supposed demoniacal possession and hallucinations, citing among others Joan of Arc, Peter the Hermit, Richard III., and instances from Swedish history. He then reproduces the documents in a case of paranoia with a ten-

dency to catatonia, possibly of alcoholic origin, in which the victim accused a certain small group of acquaintances of having bewitched him with their wiles and being responsible for all his sufferings. He brought suit for damages against them (1732), and the description of his symptoms reads like an ordinary case history of the day only for his constant references to the individuals whom he affirmed were responsible for his condition. The case is on record in the judicial archives at Stockholm. The court appointed a committee to pass on his sanity, and their report stated that he seemed thoroughly sound in mind except on the subject of the individuals in question, when his statements showed unmistakable mental derangement. Gadelius discusses the difference between hysteria and catatonia, which he regards as essentially different in their nature although sometimes so similar in their manifestations.

137. **Morbid Inheritance.**—In this exhaustive historical-critical study of the prevailing ideas in regard to morbid heredity, Vestberg quotes profusely from the international literature and advances arguments to sustain the theory that nervous affections occur in families according to the same laws which govern the etiology of all the other affections that we know anything about. That is, the main factor in all is found to be a specific, external element, and for none of them has heredity and the generally injurious influences of the environment been proved to possess more than a merely predisposing action.

138. **Tendon Transplantation After Industrial Accident.**—Dahlgren's patient was a man with traumatic paralysis of the quadriceps femoris resulting from an injury in the factory. After failure of other measures transplantation of the antagonist tendons, followed by exercises and electricity, completely cured the patient. Recovery of function required several months, but then the patient was able to walk, ride a bicycle and otherwise use both legs normally. The details of the operation are described, with an illustration.

139. **Pneumonia and Alcoholism.**—Karlsson's statistics show 1,127 or 10 per cent. pneumonia cases among 11,267 male patients, and 4.9 per cent. among 10,840 female. Studying these cases shows, he thinks, the influence of abuse of alcohol so plainly in the etiology of pneumonia that he is inclined to class acute pneumonia among the so-called alcoholic affections.

Upsala Läkareförenings Förhandlingar.

February, N. F., XIII, No. 4, pp. 211-306.

140 *Epilepsy and Mental Affections in Brothers and Sisters. (Epilepsi och sinnessjukdom hos syskon.) H. Lundborg.
141 Case of Psammoma-Carcinoma of the Mamma. E. Belfrage.
142 Mixed Tumors of Lips and Gums. (Blandsvulsterna i läpparna och gommen.) O. Wiman.
143 Cutaneous Reaction to Tuberculin. (Försök med v. Pirquet's kutane tuberkulinprof.) E. Belfrage and V. Hedesström.
144 Criticism of Head's Theory in Regard to Centripetal Nervous System. S. Airutz.
145 Jawholder for General Anesthesia. (Käkframhållare vid narkoser.) L. Bergström.

140. **Epilepsy and Mental Derangement in Brothers and Sisters.**—Lundborg reports 22 instances of this kind. He has found 32 cases on the records of 2,000 patients at the Upsala Hospital in which one member of a family had epilepsy while another showed signs of mental derangement. The records show further the frequency of the coincidence of alcoholism in the parents and epilepsy in the children. It seems evident also that one child may present epilepsy while another develops dementia præcox; this occurred in 15 out of 25 cases. The catatonic form was observed in 7 of these, the hebephrenic form in 5 and the paranoiac in 3. Severe epilepsy was observed in 3, and in 3 cases there was what he calls an epileptoid constitution with an actual psychosis. Typical mania was not encountered in any of these cases. They are all reported in great detail.

Policlinico, Rome.

March 8, XV, Practical Section, No. 10, pp. 293-324.

146 Diagnostic Value of Ocular Reaction to Tuberculin. (Oftalmoreazione.) P. Bertoli.

CORRECTION: The title No. 69 on page 925 of THE JOURNAL, March 14, should read: 69 Operation on Maxillary Antrum by Way of the Nose.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

INDEX OF TREATMENT BY VARIOUS WRITERS. Edited by Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital. H. Stansfield Collier, F.R.C.S., surgeon to St. Mary's Hospital. Revised to Conform with American Usage by Warren Coleman, M.D., Professor of Clinical Medicine and Instructor in Therapeutics in Cornell University Medical College. Cloth. Pp. 888. New York: William Wood & Co., 1908.

DIETS IN TUBERCULOSIS. By Noel Dean Bardswell, M.D., M.R.C.P., F.R.S. (Edin.) Medical Superintendent, King Edward VII Sanatorium, and John Ellis Chapman, M.R.C.S., L.R.C.P., Medical Superintendent, Coppin's Green Sanatorium. Cloth. Pp. 184. Price, $2.50. New York: Oxford University Press, 1908.

NERVOUS AND MENTAL DISEASES. By Charles S. Potts, M.D., Professor of Neurology in the Medico-Chirurgical College of Philadelphia. Second Edition, Revised and Enlarged. Pp. 570, with 142 illustrations. Price, $2.50. Philadelphia: Lea & Febiger, 1908.

MEDICAL GYNECOLOGY. By Howard A. Kelly, A.B., M.D., LL.D., F.R.C.S. (Hon. Edin.), Professor of Gynecologic Surgery in Johns Hopkins University. Cloth. Pp. 662, with 163 illustrations. Price $6.00. New York: D. Appleton & Co., 1908.

THE INTERNATIONAL MEDICAL ANNUAL. A Year-Book of Treatment and Practitioner's Index. By various authors. Cloth. Pp. 647. Price, $3.50. New York: E. B. Treat & Co., 1908.

ELEVENTH ANNUAL REPORT of the Loomis Sanatorium and Annex for the Treatment of Tuberculosis, at Liberty, Sullivan County, New York. Paper. Pp. 64.

PROCEEDINGS OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION, Thirty-eighth Annual Meeting. Paper. Pp. 91. New York: Published by the Association.

THE MELLIN'S FOOD METHOD OF PERCENTAGE FEEDING. Cloth. Pp. 183. For gratuitous distribution to physicians. Boston: Mellin's Food Co., 1908.

CHASING THE CURE IN COLORADO. By Thomas Crawford Galbreath. Paper. Pp. 52. Price, 25 cents. Published by the Author.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION. Vol. XXIII, 1907. Cloth. Pp. 330. Published by the Association.

FIRST ANNUAL REPORT OF THE HOSPITAL FOR DEFORMITIES AND JOINT DISEASES, New York. Paper. Pp. 61.

NEW OPERATING THEATER OF THE NEW YORK HOSPITAL. Cardboard. Pp. 29, with illustrations.

GUATEMALA, THE COUNTRY OF THE FUTURE. By Charles M. Pepper. Paper. Pp. 80.

SECOND ANNUAL REPORT OF THE ROOSEVELT HOSPITAL, Philadelphia. Paper. Pp. 31.

PANAMA AND BACK. By Henry T. Byford, M.D., Pp. 384. Chicago: W. B. Conkey Co.

NEW PATENTS.

Recent patents of interest to physicians:

880115. **Bottle label.** J. F. Ahrens, New York.
880481. **Stereoscope.** E. E. Clark and H. A. Douglas, Kalamazoo, Mich.
880444. Abdominal supporter. M. Donaldson, Oklahoma, Okla.
880204. Composition for generating formaldehyde. A. Eichengrun, Dusseldorf, Germany.
880452. **Apparatus** for sterilizing foods. I. Hislaire, Brussels, Belgium.
880489. **Producing magnesium.** F. von Kugelgen and G. O. Seward, Holcombs Rock, Va.
880389. **Surgical pad.** J. A. Murray, New Haven, Conn.
880041. **Belt and support** for abdominal treatment. H. T. Renton, Oakland, Cal.
880433. **Syringe.** J. Wilson, Belmont, Mass.
880496. **Syringe.** F. C. Barnes, Fremont, Ohio.
880716. **Electrothermal** garment. B. R. Charles, Portland, Ore.
880718. **Bandage.** M. S. Clendenin, Mexico, Mo.
880641. **Manufacture** of artificial aromatic balsams. F. Evers, near Dusseldorf, Germany.
880801. **Vibrator.** H. Larsen, Springfield, Ohio.
880559. **Truss.** M. W. Milligan, East Las Vegas, N. M.
880928. **Catamenial** bandage. A. R. Slater, Fruitvale, Cal.
881218. **Truss pad.** E. R. Bathrick, Akron, Ohio.
881533. Sterilizing. E. P. Beckwith, Cazenovia, N. Y.
881114. Electric vibrator. J. M. Dinkins, Indianapolis.
881855. Combination steam and water bath cabinet. J. F. Grubbs, Oklahoma, Okla.
881238. Insufflator. S. Hasbrouck, Providence, R. I.
881130. Catamenial device. A. I. Jordan, New York.
881321. Massage apparatus. J. H. Kellogg, Battle Creek, Mich.
881142. Lunar-caustic holder. J. P. O'Connor, Chicago.
881343. Arch-support for flat feet. B. Ruhmann, Jersey City, N. J.
881525. Distilling glycerin. F. J. Wood, New York.
882188. Abdominal support. V. V. Davids, New York.
882301. Catamenial bandage. M. E. Doyle, Constableville, N. Y.
882312. Apparatus for putting on india-rubber gloves. C. A. Hoefftcke, London, Eng.
882410. **Sanitary appliance.** J. H. McCall, Huntingdon, Tenn.
882532. Pneumatically-operated massage apparatus. T. A. McCall, Xenia, Ohio.
882176. Therapeutic pessary. F. M. Siner, Diamond, Ind.
882509. Apparatus for producing ozone. A. C. Wood, Philadelphia.